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15 Memo from Sec of Defense dtd 16 June 60 Subj: Coordination of Satellite and Space Vehicle Operation.

16 USIB Approved Intelligence Requirements for Satellite Reconnaissance Systems of Which SAMOS Is An Example dtd 5 July 60.

17 TWX from Hq USAF, refers to 12 July 60 Development Plan - SAMOS.

18 SAF Order dtd 11 Aug 60, Designated General Greer as Director of SAMOS Project.

19 SAF Order dtd 31 Aug 60, Subj: Establishment of Office of Missile and Satellite Systems.

20 AFDDC - Ltr dtd 31 Aug 60, Subj: Development Assumption of AFCCM Functions.

21 SAF Memo to Chief of Staff dtd 31 Aug 60, Subj: Assignment of General Curtin as Director of the Office of Missile and Satellite Systems.

22 SAF Memo to Chief of Staff USAF dtd 12 Sep 60, Subj: Emphasis on National Priority of SAMOS Program.

23 Sec of Defense Memo to SAF dtd 10 Oct 60, Subj: Reconnaissance Satellite Program. Actions taken by National Security Council.

24 TWX - SAFMS to SAFSP dtd 14 Oct 60. Establishment of SAFMS in SAF.

25 Yates memo dtd 21 Nov 60, Subj: Policy, Missile and Space Vehicle Flight Safety. (Test Annex Coordination w/Range Comdr required)

26 Memo for the Chief of Staff USAF dtd 6 Dec 60, Subj: Basic Policy Concerning SAMOS.

27 SAF Order, Nr. 116.2, dtd Dec 15, 1960, Subj: "Organization and Functions of the Air Force Satellite Photographic Processing Laboratory".

28. Memo for Sec of Army, Navy & Air Force, subj: National Range Program Planning and Related Funding Policy, 19 Jan 61.

29. M/R, subj: Trip Report, /s/ Gen Greer, 16 Feb 61. SAFSP-61-13 (reproduced copy).

30. M/R, subj: Conversation with Dr. Charyk, /s/Gen Greer, 21 Feb 61. SAFSP-61-14.

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~~SECRET~~

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
DIRECTORATE OF REQUIREMENTS

GOR NO. 80

DATE 15 March 1955

REVISED 26 Sep 1958

(S) GENERAL OPERATIONAL REQUIREMENT FOR A RECONNAISSANCE SATELLITE WEAPON SYSTEM

This GOR supersedes GOR No. 80, dated 15 March 1955, for ~~(S)~~ A Strategic Reconnaissance Satellite Weapon System which should be removed from the file and destroyed.

I. PURPOSE.

This General Operational Requirement is in support of the Intelligence and Reconnaissance Development Planning Objective 1960-1970, and the National Intelligence Objectives of the United States. It is desired that development action following this requirement result in a satellite weapon system capable of providing reconnaissance of the earth. ~~(S)~~

II. OPERATIONAL MISSION.

A. The operational mission of this weapon system is to provide aerial reconnaissance world wide and/or of preselected areas of the earth for:

1. Instantaneous warning of ballistic missile attack.

2. Collection of intellignece data to satisfy national intelligence objectives.

3. Support of U.S. emergency war plans.

4. An aid in determining the intentions of a potential enemy and the status of his warmaking capabilities.

B. Aerial reconnaissance will be performed by photographic, ferret, infrared, and other sensor systems as necessary to collect data on intelligence objectives which will be designated on the basis of priority requirements.

III. ENEMY EFFECTIVENESS ESTIMATES.

Enemy capabilities are contained in the "GOR Intelligence Annex." (U)

IV. FRIENDLY ENVIORNMENT.

SAFSP P-30

A. General

It is desired that satellites be launched from the continental limits of the United States and monitored from ground stations in the Western Hemisphere. ~~(S)~~

B. Ground Based Facilities

1. A satellite computation and control center is required.

2. Acquisition and tracking sites are required to receive collected data from the satellite and to relay command messages to the orbiting vehicles. The facilities will be designed and located to receive the data from satellites with minimum delay or degradation and to minimize enemy interception of or interference with the space to ground transmission.

3. A data procession subsystem is required for effective operational control, and for processing, screening, storing and transmission to other agencies via the USAF Communications Support System 456L (GOR 129) to the USAF Intelligence Data Handling System 438L (GOR 149 and 149-1).

V. OPERATIONAL EMPLOYMENT.

A. Satellites will be employed to acquire or confirm data concerning locations, capabilities and vulnerability of manned and unmanned strike forces, defense systems, technological developments, meteorology, topography and geography. They will be employed singly or in numbers to insure desired coverage of a selected area in a given period of time. The frequency or density of coverage required will be determined by correlation of data acquired from a variety of sensors. Separate or combined configurations of the photographic, electronic, infrared or other sensors will be employed to provide the desired coverage.

B. These sensors will be employed to acquire broad coverage within which areas or subjects of critical interest will be indentified, frequent, or perhaps for brief periods, continuous coverage on the relatively confined specific objective may be directed.

C. Each satellite may require the capability of in-flight processing of the data collected and transmission to the appropriate ground receiving stations. ~~(S)~~

VI. LIMITATIONS OF PRESENT SYSTEMS.

Present reconnaissance systems are limited as follows:

A. Inability to provide continuous surveillance. ~~(S)~~

B. Vulnerability to detection. ~~(C)~~

C. Vulnerability to countermeasures. ~~(S)~~

VII. OPERATIONAL PERFORMANCE.

A. Airframe and Propulsion Subsystems

1. The satellite airframe should be designed to insure compatibility with the load carrying capability of ICBM boosters. ~~(S)~~

2. The propulsion system visualized will use the ICBM boosters for the first stage propulsion, and a second stage engine to furnish additional thrust to achieve orbital speeds. ~~(S)~~

B. Auxiliary Power Subsystem

1. An auxiliary power subsystem is required in the satellite to supply electrical power to the various airborne components from just prior to launch until the end of the satellite's reconnaissance lifetime. These components must be compatible with available ground power during warm-up, testing and check-out on the launch stand. ~~(S)~~

C. Guidance and Control Subsystem

1. This subsystem will be designed to provide guidance and control necessary to place the satellite on the required orbit. ~~(S)~~

2. A method of self-stabilization in attitude must be provided when this vehicle is on orbit. ~~(S)~~

3. Appropriate items of ground support equipment necessary to service, test and calibrate the elements of this sub-system are required. ~~(S)~~

D. Choice of Orbit and Inclination Angle

1. The altitude and inclination angle of the satellite should be selective, depending upon the intelligence requirements of the specific mission. ~~(S)~~

E. Launch Facilities

1. The satellite launching facility will normally be a fixed, permanent type installation. ~~(S)~~

2. Satellite launching facilities should utilize to the maximum extent, ground support equipments designed for current ballistic missiles. ~~(S)~~

F. Communications Network

1. A ground-space communications link is required to transmit collected data from the orbiting satellite, and to transmit command instructions from the acquisition and tracking station to the satellite.

2. A point-to-point link is required to relay data from the acquisition and tracking station to the data processing center, and to relay command instructions from the control center to the acquisition and tracking station.

G. Data Processing Facilities

1. Development of a suitable data handling subsystem is required by this weapon system and must be available by the time a potential exists for the actual collection of intelligence information.

2. In order to facilitate dissemination of the processed intelligence information from the intelligence center to other using agencies, the data handling subsystem developed for this weapon system should be as compatible as possible with system 438L - Intelligence Data Handling System.

H. Self-Destruction

Provisions for self-destruction, to the extent that the satellite is removed from orbit, will be incorporated into each satellite. Incorporation of this feature should not delay attainment of an early operational capability.

I. Reconnaissance Sensing Systems Requirements

The reconnaissance sub-systems Requirements are detailed in addenda to this General Operational Requirement according to the following numbering system.

a.	Visual	- GOR NO. 80-1
b.	Electronic	- GOR NO. 80-2
c.	Infrared	- GOR NO. 80-3
d.	Mapping & Charting	- GOR NO. 80-4

VIII. GENERAL CONSIDERATIONS.

1. Development of this system will be on an expedited basis to provide an operational capability at the earliest possible date. ~~(S)~~

2. Consideration should be given to the use of a recoverable satellite in order to achieve maximum accuracy, information content, reliability of receipt of collected data, and reuse where economically feasible.

WD-58-07692

3. Consideration should be given to the security against enemy interrogation of the orbiting satellite and the survivability of long life satellites.

IX. AVAILABILITY.

The earliest versions of this system should be available by mid 1960 and a full operational capability must be available by 1965.

JAMES FERGUSON
Major General, USAF
Director of Requirements
DCS, Development

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
DIRECTORATE OF REQUIREMENTS

~~SECRET~~

GOR NO. 80-1

DATE: 26 SEP 1958

(S) AN ADDENDUM TO A GOR FOR A RECONNAISSANCE SATELLITE WEAPON SYSTEM

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VII. OPERATIONAL PERFORMANCE.

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J. Visual Reconnaissance Subsystem

1. General

a. The visual subsystem must provide source material for the production of intelligence information (including technical intelligence), target materials, air navigation, and topographic maps, and weather data primarily in the form of cloud cover.

b. Development of the visual satellite will involve the progression from lesser to greater resolution as the state-or-the-art improves in satellite reconnaissance in order to realize an operational capability at the earliest date. ~~(S)~~

c. This subsystem may require inflight processing, readout, storage and subsequent transmission of the collected data to the ground acquisition and tracking station. Sufficient storage capacity should be provided for data collected in robits that are not within readout range of the acquisition and tracking station.

2. Operational Characteristics

(The performance characteristics outlined herein are "ultimates." In the interest of providing early availability, a general relaxation of these is acceptable.)

a. Resolution - Resolution of photographic/visual images of low contrast objects from 20 feet to 5 feet in length on a side is required for production of most intelligence information, air navigation and target materials. Resolution of photographic images of low contrast objects one foot on a side on the ground is required for the production of technical intelligence.

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SAFSP-P 30

b. Accuracy - Objects more than 5 feet in length on a side must be measured to an accuracy within 10% to 20% of their true dimensions over 50% to 70% of the total format area. Objects less than 5 feet in length on a side must be measured to an accuracy within 5% of their true dimensions over 90% of the total format area. Targets must be located to within ½ mile of their true position.

c. Type of Photography and Format - The type of photography and format must be such that it can be used or connected for use in USAF exploitation equipment. Distortion of the recorded image must be kept to a minimum. Based on these criteria, the R&D agency will determine the most suitable type and format.

d. Flexibility - Offset flexibility necessary to obtain oblique photography of preselected areas outside of the satellite's path is required.

e. Ground Support Equipment - Appropriate ground support equipment must be provided to test, service, and calibrate all elements of this subsystem.

f. Bomb Damage Assessment and Cloud observations are inherent in this system. Equipment and techniques should be developed to exploit this capability.

JAMES FERGUSON
Major General, USAF
Director of Requirements
DCS, Development

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
DIRECTORATE OF REQUIREMENTS

GOR NO. 80-2

DATE 26 SEP 1958

(S) AN ADDENDUM TO A GOR FOR A RECONNAISSANCE SATELLITE WEAPON SYSTEM

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VII. OPERATIONAL PERFORMANCE.

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K. Electronic Reconnaissance Subsystem

1. General

a. The electronic reconnaissance subsystem must provide the ability to intercept electromagnetic emissions from potential enemies, to return the intercepted information in a secure manner, to an appropriate location, and to record this information in a form suitable for further processing.

b. Development of the electronic reconnaissance satellite will involve maximum equipment progression, utilizing state-of-the-art equipment without inhibitions of the past techniques and custom in intercept, recording, and processing. The most advanced equipment possible must be employed as early in the program as is permissible within operational considerations and equipment availability.

c. In order for the system to provide maximum intelligence, a capability for interception of communications (COMINT) signals is desired. Integration of COMINT & ELINT functions should be provided, if feasible. The combination of both functions will allow for a more timely and economical utilization of the weapon system.

2. Operational Characteristics

a. The electronic reconnaissance subsystem should provide electronic reconniassance intercept equipment in the band of frequencies between 30 mcs and 40 kmcs in easily substituted modular form.

b. Emphasis will be placed on the interception of new or unusual signals for technical intelligence as opposed to Electronic Order

SAFSRP30

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of Battle. Accuracies should be commensurate with the requirements set forth in Part I of Volume III of the USAF ELINT Objectives and Requirements List, 4 Dec 1957.

c. The capability of interception of not only pulse type emissions, but CW, AM, FM and unusual modulations will be provided. The original modulation should be preserved to the greatest extent possible prior to demodulation.

d. The system or systems hould have the capability of detecting signals which deviate from the known. On detection of such signals, provision should be made for stop-start receiver scan capability which would hold and record such signals as long as possible.

e. It is desired that the direction finding capability locate emitters to within five miles. However, this development should not degrade high order technical collection, nor delay an early EOB capability.

f. The system should be developed to allow programming of the intercept equipments to select areas of interest versus areas which are not of concern during any given orbit. This includes the broadening of areas, if desired, when the satellite is over areas of low signal density.

g. A capability of storing intercepted data from one orbit to a later orbit to facilitate the readout during a later flight over or near a readout station should be provided.

h. A system to continually provide calibration data to the ground-space communications subsystem and to the data processing subsystem should be provided. This calibration data is necessary for the production of the most reliable intelligence information possible to the ultimate consumer.

3. Appropriate ground support equipment must be provided to test, service and calibrate all elements of the subsystem.

JAMES FERGUSON
Major General, USAF
Director of Requirements
DCS, Development

AFDRQ

GOR NO. 80-3A

DATE 9 February 1959

AMENDMENT TO A
GENERAL OPERATIONAL REQUIREMENT

GOR No. 80-3, dated 26 Sept 1958 for (SECRET) A RECONNAISSANCE SATELLITE WEAPON SYSTEM is amended as follows:

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VII. OPERATIONAL PERFORMANCE

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L. Infrared Reconnaissance Subsystem

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3. Availability

The instantaneous alarm of ICBM attack capability is urgent and must be avaialble not later than CY 1961. The remaining infrared capability is urgent and required as soon as possible, providing it does not jeopardize the development of the instantaneous alarm capability.

JAMES FERGUSON
Major General, USAF
Director of Requirements
DCS/Development

SS: 1202

C9-98648

SAFSP P30

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
DIRECTORATE OF REQUIREMENTS

~~SECRET~~

GOR NO. 80-3

DATE 26 SEP 1958

(S) AN ADDENDUM TO A GOR FOR A RECONNAISSANCE SATELLITE WEAPON SYSTEM

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VII. OPERATIONAL PERFORMANCE

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L. Infrared Reconnaissance Subsystem

1. General

a. Development of the infrared subsystem should proceed in phases in order to insure the development of a capability to detect mass ICBM launchings at the earliest possible date. A capability to track and predict ICBM launch and impact areas is recognized as a more difficult task in terms of complexity and availability.

b. This subsystem must provide:

(1) Instantaneous alarm of attack by ICBM's. A capability to detect a mass attack by air breathing vehicles is desirable, but not to the detriment of the ICBM attack alarm capability.

(2) ICBM tracking and prediction of launch and impact areas.

(3) A means to measure missile thrust, and the number and duration of thrust stages.

(4) A means to identify static test firings at operational launch sites.

c. The system will be employed in sufficient numbers to insure continuous coverage and transmission of collected data to appropriate ground processing center/s.

SAFSP P.30

2. Operational Characteristics

a. Range - The satellite should be capable of detecting the launch of an ICBM at such range that will provide the most economical balance of weight, orbital altitude, number of satellites, and reliability of detection.

b. Accuracy - Trajectory measurements must be sufficiently accurate to positively determine that the ICBM attack is aimed at the U.S. or its possessions.

c. The system must be capable of inflight processing for immediate transmission to another satellite and/or a ground station. In addition, a capability for storage of information to facilitate readout during flight over or near a ground station should be provided.

d. Reliability and longevity of all components must be included. This must include maximum resistance to enemy jamming and automatically check and reject "false alarms."

e. Appropriate ground support equipment must be provided to test, service and calibrate all elements of this subsystem.

f. This subsystem should be compatible with and provide detection and surveillance information to the active missile defense system.

3. Availability

This subsystem is required in 1963.

JAMES FERGUSON
Major General, USAF
Director of Requirements
DCS, Development

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
DIRECTORATE OF REQUIREMENTS

GOR NO. 80-4

DATE 26 SEP 1958

(S) AN ADDENDUM TO A GOR FOR A RECONNAISSANCE SATELLITE WEAPON SYSTEM

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VII. OPERATIONAL PERFORMANCE.

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M. Mapping and Charting Sub-System

1. General

a. The photo mapping and charting sub-system must provide cartographic agencies with photo mapping coverage of the land mass areas of the world including those areas which are not presently accessible either for political or other reasons. The end product of this sub-system must result in maps and charts (or substitutes) of geodetic accuracy.

b. Photography produced by this sub-system must be of high quality with sufficient data recorded on the negative to facilitate reduction to usable form by cartographic agencies. The developing agency should consider the feasibility of utilizing a recoverable sub-system or at least the film cassette if necessary, to provide the required quality of photography.

2. Operational Characteristics

a. Complete coverage of all land mass areas throughout the world is required. Coverage of non-strategic areas of the world is required primarily for use as an aid in affecting geodetic ties.

b. A capability to command the sub-system is required.

c. Accuracy requirements: Identifiable points or objects on the photography must be located to with 1000 feet of their true location in relation to the world geodetic grid.

d. The photographic equipment installed in this subsystem must be designed for this specific application. The camera must have the following characteristics:

(1) Lens - Selection of the lens will represent the best balance between minimum lens distortion and maximum lens resolution.

(2) Between the lens shutter.

(3) Pulse type with single frame exposure for stereoscopic coverage operations.

(4) Vertical reference indicator of maximum accuracy.

JAMES FERGUSON
Major General, USAF
Director of Requirements
DCS, Development

NO: 116.1
DATE: 28 August 1969

SECRETARY OF THE AIR FORCE
ORDER

SUBJECT: The Office of Special Projects

1. The Director of Special Projects and his key personnel constitute a field extension of the Office of the Secretary of the Air Force. Their manpower spaces are provided by my staff. Additional manpower spaces are assigned by my direction from resources available to the Air Force Systems Command.

2. The Director is responsible to and reports directly to the Secretary of the Air Force, and manages and conducts designated projects exclusively in accordance with guidance received from this office. The Director will perform additional duty as Deputy Commander for Satellite Programs, Space and Missile Systems Organization, AFSC.

3. Secretary of the Air Force Order Number 116.1, dated July 19, 1962, is hereby superseded.

4. This Order is issued in accordance with Air Force Regulation 11-18, dated July 18, 1963, subject: Delegating or Assigning Statutory Authority.

ROBERT C. SEAMANS, JR.
Secretary of the Air Force

NO: 115.1

DATE: July 25, 1961

SECRETARY OF THE AIR FORCE
ORDER

SUBJECT: Organization and Functions of the Office of Missile and Satellite Systems

1. There is hereby established the Office of Missile and Satellite Systems in the Office of the Secretary of the Air Force.

2. The Director of the Office of Missile and Satellite Systems is primarily responsible for assisting the Secretary in discharging his responsibility for the direction, supervision and control of the SAMOS Project. He is responsible for maintaining liaison with the Office, Secretary of Defense and other interested Governmental agencies on matters relative to his assigned responsibilities. He may be assigned additional duties as deemed appropriate by the Secretary of the Air Force.

3. Secretary of the Air Force Order No. 115.1, dated August 31, 1960, is hereby superseded.

Eugene M. Zuckert

EUGENE M. ZUCKERT
Secretary of the Air Force

Superseded
by 115.1
dtd 26 Jan 62

AFHQ FORM 0-682 17 JUN 53

NO: 116.3

DATE: August 25, 1964

SECRETARY OF THE AIR FORCE

ORDER

SUBJECT: Organization and Function of the Air Force Special Projects Production Laboratory

1. There is hereby established the Air Force Special Projects Production Laboratory (AFSPPL) (U) at Westover Air Force Base, Massachusetts.

2. The Laboratory will be under the command of the Director of Special Projects, OSAF, 2400 East El Segundo Boulevard, El Segundo, California. It will be assigned organizationally to the 6594th Aerospace Test Wing (AFSC), Sunnyvale, California. Host base will provide support in accordance with AFR 11-4.

3. The mission of the AFSPPL will be to conduct the research and development necessary to provide the best possible production equipment and techniques in support of special projects specified by the Secretary of the Air Force.

EUGENE M. ZUCKERT
Secretary of the Air Force

Superseded
28 Sep 71

DEPARTMENT OF THE AIR FORCE
UNITED STATES OF AMERICA
MCMXLVII

NO: 116.1
DATE: JUL 19 1962

SECRETARY OF THE AIR FORCE
ORDER

SUBJECT: The Director of Special Projects

1. Effective 1 August 1962, Major General Robert E. Greer is designated as Director of Special Projects, OSAF, with additional duty as Deputy Commander for Satellite Programs, Space Systems Division, AFSC, with duty station at 2400 East El Segundo Boulevard, El Segundo, California.

2. The Director will organize an office to manage designated space projects. A number of manpower spaces will be provided by my staff. Additional manpower spaces for the office will be drawn from resources available to the Air Force Systems Command. The Director and his key personnel will constitute a field extension of the Office of the Secretary of the Air Force.

3. The Director is responsible to and will report directly to the Secretary of the Air Force, and will manage and conduct designated projects exclusively in accordance with guidance received from this office.

4. Secretary of the Air Force Order No. 116.1, dated November 10, 1961, is hereby superseded.

Eugene M Zuckert
EUGENE M. ZUCKERT
Secretary of the Air Force

Superseded by
116.1 dtd 28 Aug 69

NO: 116.1
DATE: JUL 19 196[illegible]

SECRETARY OF THE AIR FORCE
ORDER

SUBJECT: The Director of Special Projects

1. Effective 1 August 196[illegible], Major Gen [illegible] E. Greer is designated as Director of Special Projects, OSAF, with additional duty as Deputy Commander for Satellite Programs, Space Systems Division, AFSC, with duty station at [illegible] East El Segundo Boulevard, El Segundo, California.

2. The Director will organize an office to manage designated space projects. A number of manpower spaces will be provided by my staff. Additional manpower spaces for the office will be drawn from resources available to the Air Force Systems Command. The Director and his key personnel will constitute a field extension of the Office of the Secretary of the Air Force.

3. The Director is responsible to and will report directly to the Secretary of the Air Force, and will manage and conduct designated projects exclusively in accordance with guidance received from this office.

4. Secretary of the Air Force Order No. 116.1, dated November 1[illegible], 1961, is hereby superseded.

Eugene M. Zuckert
EUGENE M. ZUCKERT
Secretary of the Air Force

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HEADQUARTERS
AIR RESEARCH AND DEVELOPMENT COMMAND
Post Office Box 1395
Baltimore 3, Maryland

S.R. No. 5
17 October 1955

ARDC SYSTEM REQUIREMENT

1. DIRECTED ACTION

Submission, upon request, to Headquarters ARDC (Western Development Division) of information necessary for the preparation of a System Development Plan by the following participating centers is directed:

a. Wright Air Development Center.

b. Air Force Cambridge Research Center.

c. Holloman Air Development Center.

d. Rome Air Development Center.

e. Arnold Engineering Development Center.

f. Air Force Missile Test Center.

g. Air Force Personnel and Training Research Center.

(UNCLASSIFIED)

2. GENERAL INFORMATION

a. Title: (UNCLASSIFIED) Advanced Reconnaissance System.

b. System No: 117L

c. Responsible Agency: Headquarters ARDC (Western Development Division) is responsible for preparation of a System Development Plan based on the requirements contained herein in accordance with ARDCM 80-4, dated 1 July 1955.

d. Target Dates:

(1) Submission of System Development Plan to Headquarters USAF: 1 April 1956.

This SR supersedes SR No 5, dated 29 November 1954, title, "Advanced Reconnaissance System."

~~SECRET~~

SAFSP P30 C5-62850

(2) Operational time period of this system: Prior to 1965 through 1970 (See par 5a).

e. Participation, Coordination, or Interest:

(1) Air Materiel Command - ([illegible]).

(2) Air Proving Ground Command - (P).

(3) Air Training Command - (P).

(4) Strategic Air Command - (C).

(5) Air Defense Command - (C).

(6) CNO, USN - (I).

(7) C/S, USA - (I). (8) CIA (I)

f. Funding Information: Funds for this program are carried for FY 1956 under BPSN 2-1115.

g. References

(1) GOR No: 80 (SA-2c), dated 16 March 1955.

(2) DD Form 613, title, "Advanced Reconnaissance System", Project No. 1115, dated 19 April 1955, RCS: DD-R&D/A/119.

~~(SECRET)~~

3. REQUIREMENT

a. General Philosophy

In order to permit selection of the most effective approach to an Advanced Reconnaissance System concept which utilizes an earth satellite as a system platform, it is essential that the existing and projected state-of-the-art in this field be adequately surveyed, and a determination made through system design studies by selected contractors, of the technical and economical magnitude of full system development effort. From these studies there will be prepared a Development Plan which will be used as a basis for choice of the Advanced Reconnaissance System to be developed for the Air Force inventory. It has been generally accepted that, with the advent of the very high yield super weapon, strategic target intelligence requirements for efficient use of such a weapon have become far less detailed than heretofore; but at the same time, the requirement for routine surveillance of an enemy's territory becomes all the more necessary to anticipate and circumvent his effective use of the same caliber weapon. In concept at least, the technical approach to this type of Advanced Reconnaissance System leads one to the artificial earth satellite which, with its inherent capability for routine, long duration flight and its apparent capabilities for the collection of reasonably detailed information from the surface of the earth, seems to make a satellite system attractive for strategic and national reconnaissance. ~~(SECRET)~~

b. Objectives of the Advanced Reconnaissance System

As a matter of general guidance, the following may be considered the intelligence objectives for the Advanced Reconnaissance System:

(1) Continuous reconnaissance (visual, electronic, or other) coverage of the USSR and satellite nations, for surveillance purposes. Timeliness of receipt of the intelligence information is essential, with daily reconnaissance coverage at high resolution the ideal. In consideration of the requirement for earliest availability of the Advanced Reconnaissance System, the engineering progression and Air Force acceptance should be from the lesser to the greater resolution.

(2) The resolvable surface dimension detail should be of the order of 100 feet or smaller. A capability of resolving detail to the degree that objects approximately 20 ft on the side can be positively identified is the optimum in order to positively identify enemy weapon launching sites and associated activity. If this objective can be met, the many other intelligence requirements of larger surface dimension would automatically be satisfied.

(3) The volume of intelligence delivered by this Advanced Reconnaissance System will be staggering. Therefore, the system, in order to be considered complete, must include a suitable associated data handling, recording, reduction, and filing system. The earliest acceptable system must have provisions for automatic data indexing, filing and storage. Final objective will be for completely automatic data processing, interpretation, presentation, and dissemination. All data handling systems conceived for the Advanced Reconnaissance System will be compatible with data handling equipment in contemporary use within the intelligence community.

(4) The accuracy with which points on the earth's surface can be located by the Advanced Reconnaissance System should be studied. While grosser accuracies can be accepted as interim solutions, the finer accuracies should be considered as the optimum and the goal for ultimate complete development.

(5) Thorough investigation of all possible means of improving the intelligence collection capability of the Advanced Reconnaissance System; such as the application of stereo techniques to the analysis and interpretation of television images.

~~(SECRET)~~

c. Mission

(1) The primary operational mission of the Advanced Reconnaissance System will be to provide pioneer and surveillance reconnaissance coverage of the territories controlled by the USSR and its allies. The system must be capable of obtaining:

(a) Routine target, mapping, pioneer terrain, weather, and photo intelligence data.

(b) Bomb damage assessment of high yield weapon strikes.

(2) An alternate and co-equal mission for the Advanced Reconnaissance System will be to provide and maintain continuous and comprehensive surveillance of the electronic activities of the USSR as a means of securing basic Soviet intentions, intelligence, and capabilities intelligence. The electronic reconnaissance (ferret) system should be capable of:

(a) [redacted]

(b) [redacted]

(3) Each mission carries a firm requirement for a suitable data handling and processing capability

both in the vehicle and on the ground.

~~(SECRET)~~

d. Physical Characteristics

The Advanced Reconnaissance System can be described as follows:

(1) A launching base which will consist of all facilities and equipment necessary for the proper launching of the satellite vehicle

(2) A satellite vehicle which will consist of the following sub-systems:

(a) Propulsion stage or stages necessary to boost the reconnaissance payload to its orbital altitude and once at this altitude to impart the velocity required to establish the satellite on its orbit.

(b) Guidance and control equipment to (a) guide the vehicle from the launching base to its orbit and (b) establish and maintain the reconnaissance payload in the correct attitude after it has been placed on orbit.

(c) Reconnaissance equipment that provides useable pictorial reconnaissance information for transmission to a ground receiving station. The alternate mission will require sensing equipment that is capable of detecting electromagnetic radiations instead of physiographic features.

(d) Information storage equipment with a capability of routinely storing the information gathered by the satellite vehicle until it can be transmitted to a ground receiving station.

(e) Transmitter equipment for transmission of the collected reconnaissance information, transmission and reception of any other information that is required to properly operate the satellite and its equipment.

(f) Miscellaneous equipment required for the proper functioning of the satellite; e.g., a transponder beacon to aid in the tracking of the satellite by a ground receiving station might conceivably be used.

(g) An auxiliary power supply to provide sufficient power for all of the satellite's needs.

(h) Provision for self-destruction of the satellite vehicle upon termination of its operational usefulness.

(3) The ground receiving station will consist of the following sub-systems:

(a) Receiving equipment to (a) receive the transmitted reconnaissance information, (b) enable vehicle tracking, and (c) any other information transmitted from the satellite.

(b) Transmitter equipment to transmit any required information to the satellite.

(c) Information storage equipment that will retain the reconnaissance information transmitted from the satellite until it is fully used.

(d) Display equipment that will display the reconnaissance information as it is received and which can also be used for viewing stored information.

(e) Other equipment that is required for the handling, interpretation and dissemination of the reconnaissance data that is received.

~~(SECRET)~~

4. GUIDANCE

a. Three parallel system design studies on the "Advanced Reconnaissance System" are currently being conducted under Task No. 21010, Project No. 1115. The purpose of these studies is to determine whether a useful military intelligence system, utilizing an artificial earth satellite as a carrier, can be foreseen with sufficient definitude to indicate full development at this time. Maximum utilization of these design studies in preparing the System Development Plan is directed.

b. In the artificial satellite we see a platform which at the present time appears to be limited in its military usefulness to that of making observations or relaying communications. This is a vehicle system singularly applicable to use as a reconnaissance system.

The approach to the design of the overall system must be that of assuring a maximum military utility and reliability (since early models of the Advanced Reconnaissance System will undoubtedly be unmanned) of the reconnaissance sub-system; these factors will determine in turn the design objectives of the vehicle with its propulsion and guidance sub-systems.

c. One of the basic advantages of a satellite is its more-or-less unlimited duration of flight. If we were to try to take full advantage of this flight duration capability, it would be necessary to achieve flight equipment reliability far in excess of that which is possible today. There is a point at which a balance can be struck between efforts aimed at improving the reliability of flight components of the satellite, and the economy to be realized from the extended flight duration characteristics of a satellite. The system design studies directed herein should result in a suggested optimum system flight time, for which in-flight components should be designed.

d. In design of the Advanced Reconnaissance System, full advantage must be taken of those components, in existence or under development for other systems, which have application to a satellite-type vehicle system. Activity resulting from this directive must be fully coordinated, within ARDC, with related system developments to insure that no unwarranted duplication of study or design effort exists. Headquarters USAF will undertake necessary inter-service coordination.

e. The proposed test program for the Advanced Reconnaissance System should be oriented so as to maximize the usefulness of the test vehicles to the scientific community in general, as well as to satisfy environmental and engineering requirements of the Advanced Reconnaissance System. The System Development Plan should contain provisions for the fabrication and launching of "research laboratory models" of the satellite test vehicle, capable of obtaining and transmitting to earth valuable scientific data on the space environment and astronomical bodies. Such vehicles should be planned for launching early in the system test program, with the first "research laboratory model" launching prior to 1 January 1959, if possible.

f. In addition to the three system design studies referred to in 4a above, Project No. 1115 encompasses state-of-the-art study and experimental hardware development in the critical component areas of the Advanced Reconnaissance System. The current technical program involves thirteen separate tasks, carried out principally by contract. This program was established to provide state of art inputs to the system design studies; fullest exploitation of the Project 1115 technical program should be insured in this respect.

5. OTHER INFORMATION

a. SECURITY

Maintenance of proper security of this program is of paramount importance. A basic guide to security will be the following: all information which contains or implies a date of operational availability for the Advanced Reconnaissance System; as well as information pertaining to its progress as a Weapons System will be classified ~~TOP SECRET~~. Other aspects of the Advanced Reconnaissance System program, including its exploitation of the satellite, will be ~~SECRET~~. ~~(SECRET)~~

b. USE OF SCIENTIFIC CONSULTANTS

The broad group of the engineering, physical, and geophysical sciences, which is encompassed by a development such as that contemplated in the Advanced Reconnaissance System, requires that ARDC make maximum use of the scientific and technical competence within the nation. This competence should be recognized and utilized when required in a consultant and advisory capacity by the Weapons Systems Project Office responsible for the Advanced Reconnaissance System. Wherever possible, civilian scientists who can contribute to the success of this project should be engaged in the capacity of consultant to ARDC, and the results of their efforts made available to all contractors on an equal basis. ~~(CONFIDENTIAL)~~

c. PRIORITY

Preparation of the System Development Plan directed herein will be carried out under Priority 1A, Precedence II-3. (UNCLASSIFIED)

UNITED STATES AIR FORCE
HEADQUARTERS AIR RESEARCH & DEVELOPMENT COMMAND
OFFICIAL
AUTHENTICATION

JOHN A. CONNOR
Chief, Program Control Div
Directorate of Systems Plans

Don R. Ostrander
DON R. OSTRANDER
Brigadier General, USAF
Assistant for Guided Missiles Systems
Deputy Commander/Weapon Systems

This SR is classified SECRET
IAW AFR 205-1, par 23c.

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HEADQUARTERS
AIR RESEARCH AND DEVELOPMENT COMMAND
Post Office Box 1395
Baltimore 3, Maryland

SDD No. 117L
17 August 1956

ARDC SYSTEM DEVELOPMENT DIRECTIVE
ADVANCED RECONNAISSANCE SYSTEM

1. DIRECTED ACTION

Implementation, within the limitations outlined by the following paragraphs of this directive, of System Development Plan No. WS 117L, dated 2 April 1956, title: "Advanced Reconnaissance System," is directed. (UNCL)

2. ASSIGNMENT OF RESPONSIBILITIES

a. Primary responsibility for the implementation and execution of this Development Plan is assigned to Headquarters ARDC, Western Development Division. (UNCL)

b. At the request of Western Development Division, and to the degree stipulated by that agency, the following Centers will be responsible for technical and/or test support, as appropriate, in the execution of the WS 117L Development Plan:

(1) Air Force Cambridge Research Center.

(2) Wright Air Development Center.

(3) Rome Air Development Center.

(4) Holloman Air Development Center.

(5) Arnold Engineering Development Center.

(6) Air Force Missile Test Center.

(7) Air Force Personnel and Training Research Center.

(UNCL)

3. CHANGES

No specific changes to the WS 117L Development Plan, dated 2 April 1956, are directed. However, it is desirable that the Advanced Reconnaissance System be capable ultimately of meeting all operational and technical intelligence requirements for visual reconnaissance; the necessary development to improve the proposed visual sensor system to permit maximum ground resolution should be incorporated in the Development Plan, and such developments initiated as soon as possible in parallel with the WS 117L development program. S ~~(SECRET)~~

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4. PERTINENT INFORMATION

a. Target Date - As indicated in Top Secret Supplement to WS 117L Development Plan, dated 2 April 1956. (SECRET).

b. Funding Information - This system is being funded under line item 621-117L. (UNCL)

c. References -

(1) USAF General Operational Requirement No. 80 (SA-2c), 16 March 1955.

(2) ARDC System Requirement No. 5, 17 October 1955.

(3) USAF Development Directive No. 85, 3 August 1956.

(UNCL)

d. Other -

(1) Security - Maintenance of special security restrictions on information relating to development progress, system status, and planned operational capabilities is directed. A Master Security Classification Guide for WS 117L will be prepared, and a roster maintained of individuals whose position, as known to [illegible] organization, requires overall knowledge of the sensitive aspects of the WS 117L development program. An up-to-date copy of this roster will be submitted for retention at this Headquarters, Attn: [illegible].

(2) Initial Funding - [illegible] Limitations on FY 1957 funds available to this Command permit allocation of only $3,000,000 to initiate development of WS 117L. As soon as possible, ARDC Form 111, "Research and Development Management Report," should be submitted to Headquarters ARDC, Attn: RDZMP, outlining significant changes to the WS 117L Development Plan which will result from this inadequate initial funding. (SECRET)

BY ORDER OF THE COMMANDER:

OFFICIAL

JOHN A. CONNOR
Chief, Fiscal &
Documentation Branch
Executive Office
Deputy Comdr/
Weapon Systems

DON R. OSTRANDER
Brigadier General, USAF
Ass't for Guided Missiles Systems
- Deputy Commander/Weapon Systems

This document is classified SECRET because it contains information on technological developments planned for the defence of the nation, the unauthorized disclosure of which would result in serious damage to the nation.

HEADQUARTERS
AIR RESEARCH AND DEVELOPMENT COMMAND
Post Office Box 1395
Baltimore 3, Maryland

Amend. No. 1 to
SDD No. 117L
28 August 1956

AMENDMENT TO ARDC SYSTEM DEVELOPMENT DIRECTIVE
ADVANCED RECONNAISSANCE SYSTEM

1. AMENDMENT

ARDC System Development Directive No. 117L, dated 17 August 1956, is amended as follows:

a. Add to paragraph 4, as follows:

"e. Priority-Precedence -

The Advanced Reconnaissance System is currently assigned a development priority of 1A, and USAF Precedence List rating of I-6."
(UNCLASSIFIED)

BY ORDER OF THE COMMANDER:

UNITED STATES AIR FORCE
Headquarters Air Research & Development Command
OFFICIAL

JOHN A. CONNOR
Chief, Fiscal & Documentation Branch
Executive Office
Deputy Commander/Weapon Systems

DON R. OSTRANDER
Brigadier General, USAF
Ass't for Guided Missiles Systems
Deputy Commander/Weapon Systems

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ADVANCED RESEARCH PROJECTS AGENCY
WASHINGTON 25, D.C.

ARPA Order No. 9-60
Amendment No. 15
ProjectCode No. 2100

October 8, 1959 DATE

TO: Secretary of the Air Force
Washington 25 D.C

ARPA order No. 9, dated June 30, 1958, as amended, is hereby further amended to increase the fund availability by $20,000,000 from $147,600,000 to a new total of $167,600,000 under appropriation and account symbol "97X0113.002 Salaries and Expenses, Advanced Research Projects Agency, Department of Defense." This funding provides for work during the month of October 1959.

John E. Clark
Rear Adm., USN
Acting Director

Copy to: Commander, ARDC

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ADVANCED RESEARCH PROJECTS AGENCY
WASHINGTON 25, D.C.

ARPA Order No. 9-58
Amendment No. 11

April 14, 1959 DATE

TO: The Secretary of the Air Force
Washington 25, D.C.

Amendment No. 10, dated April 3, 1959, to ARPA Order No. 9-58 is hereby restated to correct a typographical omission.

"The Development and Funding Plan, dated January 30, 1959, for the SENTRY PRogram, is hereby approved to the extent it pertains to payload programs of visual reconnaissance readout, visual reconnaissance recovery, and ferret readout.

"Further program guidance will be in accordance with paragraph 4 of the basic Order."

/s/ J. E. Clark
for Roy W. Johnson
Director

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ADVANCED RESEARCH PROJECTS AGENCY
WASHINGTON 25, D.C.

April 14, 1959

MEMORANDUM FOR THE SECRETARY OF THE AIR FORCE

SUBJECT: Classification of ARPA Order No. 9-58,
Amendment No. 10

This is to advise that ARPA Order No. 9-58, Amendment No. 10, dated April 3, 1959, should be classified SECRET.

All holders of the above amendment shall take appropriate action to classify their copies accordingly.

L. P. Gise
Assistant Director
(Administration)

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ADVANCED RESEARCH PROJECTS AGENCY
WASHINGTON 25, D.C.

ARPA Order No. 9-58
Amendment No. 10

April 3, 1959 DATE

TO: The Secretary of the Air Force
Washington 25, D.C.

The Development and Funding Plan, dated January 30, 1959, for the SENTRY Program, is hereby approved to the extent it pertains to payload programs of visual readout, visual recovery, and ferret readout.

Further program guidance will be in accordance with paragraph 4 of the basic order.

Roy W. Johnson
Director

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ADVANCED RESEARCH PROJECTS AGENCY
Washington 25, D. C.

ARPA Order No. 9-58
Amendment No. 9

April 1, 1959 Date

TO: The Secretary of the Air Force
Washington, D. C.

1. Revised procedures for preparation of reports required by ARPA from BMD on progress of work performed under ARPA Order No. 9-58, dated June 30, 1958, as amended, are set forth in Attachment No. 1 to this Amendment. These reports represent ARPA's foreseeable requirements for reporting under this Order.

2. The following rescissions are hereby made:

a. ARPA memorandum for the Secretary of the Air Force, dated June 18, 1958, subject: Military Reconnaissance Satellite Progress Report, is rescinded in entirety.

b. ARPA memorandum for the Commanding General, Ballistic Missile Division, Air Research and Development Command, and Inclosure 1 thereto, dated July 15, 1958, subject: Military Reconnaissance Satellite Report, are rescinded in entirety.

c. ARPA memorandum for the Commanding General, Ballistic Missile Division, Air Research and Development Command, dated September 10, 1958, subject: Distribution of Reports Concerning ARPA Projects. The first, second and last paragraphs and Inclosure No. 1, thereto, are rescinded.

d. ARPA memorandum for the Commander, Air Force Ballistic Missile Division, and Inclosure 1, thereto, dated December 23, 1958, subject: Format for the December 31, 1958, Military Satellite Program Progress Report, are rescinded in entirety.

3. Distribution of AFBMD reports required by ARPA on work performed under ARPA Order No. 9-58 to agencies within

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the quarter. The report should reach ARPA no later than the 11th of the month following the close of the quarter reported. When the 11th falls on a non-workday, the report will be due the following workday. The initial report under this directive will be for the quarter ending March 31, 1959.

Content. The quarterly progress report will cover the progress, special achievements, problems encountered, schedules and overall status of the program. It is essential that the content be carefully organized and that the material is presented briefly, clearly and concisely.

Format.

PART A. Brief of Progress During the Quarter. The brief should not exceed one-half page in length and should present the outstanding highlights of progress and status of the program.

PART B. Topical Summary. The topical summary consists of a series of summary headings, each of which is followed by a summary paragraph or paragraphs. The summary paragraphs are not limited in number but generally should not exceed 15 lines in length. Each paragraph should be abstracted in a marginal heading appearing at the left margin opposite the first line of the paragraph. All elaborative detail should be relegated to Part C and reference noted thereto, as appropriate. Suggested summary headings for the SENTRY Project are:

SENTRY PROJECT

SENTRY FLIGHTS

Flight I
Flight II, etc.

FACILITIES AND SITES

Launch
Tracking

GENERAL

Auxiliary Power Subsystem
Visual Reconnaissance Subsystem

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USAF will be decided by AFBMD in consonance with established USAF procedures. Requests for copies of these reports by agencies outside USAF will be referred to ARPA for approval.

Roy W. Johnson
Director

1 Incl:
  Attachment No. 1

Copy to: Commander, ARDC

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Attachment No. 1

ARPA Order No. 9-58
Amendment No. 9

PREPARATION OF REPORTS

I. Monthly Progress Report

a. Narrative Section. A letter report will be submitted by AFBMD giving a narrative account of work performed under ARPA Order No. 9-58. The letter report will cover work performed each month with the exception of the last month (March, June, September and December) of each calendar quarter. The quarterly progress report prescribed below will be submitted in lieu of the letter report for the last month of each calendar quarter. The initial letter report under this directive will be for the month of April 1959. Letter reports will be submitted in quadruplicate to the Director, Advanced Research Projects Agency, and are due within 10 days following the month reported.

The report will be in letter form, preferably not exceeding three pages, and will present a brief narrative summary of progress during the reporting period. Each report should make specific reference to the following topics: (1) technical status, (2) problems encountered, (3) work schedules, and (4) action required by ARPA. Photographs and illustrative material will be submitted as appropriate. The ARPA Order number, name of contractor, date of contract, contract number, amount of contract, and title of the project should be stated in the heading of each report.

b. Milestone Section. Instructions for preparation of a milestone progress report, which requires use of a standard format in reporting actual progress against planned progress in accomplishing major milestones, will be issued at a later date.

II. Quarterly Progress Report

The purpose of the quarterly progress report is to provide the President and the Secretary of Defense and their staff with periodic summary information by which they may be kept informed of over-all progress and results in certain of the satellite projects.

Frequency and Due Date. The quarterly progress report will be prepared for submission to the President each calendar quarter and will show a summary of progress and significant events during

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GENERAL (continued)

Ferret Reconnaissance Subsystem (Certain basic subsystem hardware for the SENTRY Project presently being developed under the DISCOVERER Project will be reported under the DISCOVERER Project and reference made thereto.)

These headings may be revised or added to by the preparing agency from time to time, as appropriate.

PART C. Descriptive Detail. All detailed description and back-up information considered necessary to the completeness of the report will be confined to Part C. Examples are description and layout of tracking stations, map sketches of location of facilities, and details of design and testing of equipment. A glossary sheet listing standard equipment and systems terminology and specifications should be included.

Photographs and Sketches. Photographs and sketches selected to show progress of the work and depict development of equipment should accompany each report. To facilitate printing, photographs and sketches will be in black-and-white glossy finish on 8X10-1/2-inch paper. Each photograph should contain some commonly known object to indicate scale and be clearly captioned.

General. The quarterly progress report will be assembled with those of other satellite projects into a single Department of Defense Military Satellite Program Progress Report and transmitted to the President. It is desired that the format of the report to the President be carefully followed in preparing the report for your project to enable ARPA to print and transmit the consolidated report to the White House with minimum rewriting and editing delay.

III. Semiannual Technical Summary Report

A technical summary report will be prepared semiannually for periods ending June 30 and December 31 of each year. The report will present a concise and factual discussion of technical findings and accomplishments during the period. Six copies of the report

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will be submitted to the Director, Advanced Research Projects Agency, and are due within 30 days following the close of the report period. Upon completion of the project, a final report will be submitted summarizing the entire project. The final completion report will be submitted in lieu of the regular semiannual report to reach the Director, Advanced Research Projects Agency, within 60 days following project completion. The ARPA Order number, name of contractor, and title of the project should be stated in the heading of each report.

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ADVANCED RESEARCH PROJECTS AGENCY
WASHINGTON 25, D. C.

ARPA Order No. 9-58
Amendment No. 8

February 16, 1959 Date

TO: The Secretary of the Air Force
Washington 25, D. C.

The program objectives and related funding for the SENTRY program as presented to ARPA February 4, 1959, are, in general, approved.

Accordingly, ARPA Order No. 9-58, dated June 30, 1958, as amended, is hereby further amended to decrease the fund availability from $148,200,000 to a new total of $96,600,000 under appropriation and account symbol "97X0113.002 Salaries and Expenses, Advanced Research Projects Agency, Department of Defense."

The Development and Funding Plan, dated January 30, 1959, pertaining to the SENTRY program, is being reviewed and specific comments relating thereto will be provided for further program guidance.

Roy Johnson

Roy W. Johnson
Director

Copy to: Commander, ARDC

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ADVANCED RESEARCH PROJECTS AGENCY
Washington 25, D. C.

ARPA Order No. 9-58
Amendment No. 7

January 19, 1959 Date

TO: The Secretary of the Air Force
Washington 25, D. C.

ARPA Order No. 9-58, dated June 30, 1958, as amended, is hereby further amended to increase the fund availability from $136,200,000. to a new total of $148,200,000 under appropriation and account symbol "97X0113.002 Salaries and Expenses, Advanced Research Projects Agency, Department of Defense."

/s/ Roy W. Johnson
/t/ Roy W. Johnson
Director

Copy to: Commander, ARDC

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ADVANCED RESEARCH PROJECTS AGENCY
Washington 25, D. C.

ARPA Order No. 9-58

Amendment No. 6

December 11, 1958

TO: The Secretary of the Air Force
Washington 25, D. C

ARPA Order No. 9-58, dated June 30, 1958, as amended, is hereby further amended to redirect the responsibility for its execution from the Commander, Air Research and Development Command, to the Secretary of the Air Force.

/s/ L. P. Gise
for Roy W. Johnson
Director

cc: Commander
Air Research and Development Command

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ADVANCED RESEARCH PROJECTS AGENCY
WASHINGTON 25, D. C.

ARPA ORDER NO. 9-58

Amendment No. 1

July 17, 1959

TO: Commanding General
Ballistic Missiles Division, ARDC
Los Angeles, California

ARPA Order No. 9-58, dated June 30, 1958 is hereby amended to increase the fund availability specified in paragraph 3 from $22,700,000 to a new total of $30,700,000 under appropriation and account symbol "97x0113.002 Salaries and Expenses, Advanced Research Projects, Department of Devense."

/s/ Roy W. Johnson
Roy W. Johnson
Director

cc: Secretary of the Air Force

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ADVANCED RESEARCH PROJECTS AGENCY
Washington 25, D.C.

ARPA Order No. 9-58

June 30, 1958 Date

TO: Commanding General
Ballistic Missiles Division, ARDC
Los Angeles, California

1. Pursuant to the provisions of DoD Directive 5105.15, dated February 7, 1958, the Secretary of Defense has approved the assumption of responsibility by ARPA for the Advanced Reconnaissance Satellite (WS 117-L). You are hereby requested to continue with this program on behalf of the Advanced Research Projects Agency. Additional details and directives will be issued by ARPA from time to time and will become a part of this Order when so specified.

2. You will submit, as soon as possible, for review and approval by the Advanced Research Projects Agency a detailed development and related financial plan covering the program. These data shall include a time-phased schedule of work and estimates for work to be performed (a) at BMD, (b) by contract, and (c) at other government facilities.

3. This Order makes available $22,700,000 under appropriation and account symbol "97X0113.002 Salaries and Expenses, Advanced Research Projects, Department of Defense", for obligation by the Ballistic Missiles Division on behalf of the Advanced Research Projects Agency, only for purposes necessary to accomplish the work specified herein. These funds are not available for public works. Such public works as are necessary to the program shall be separately requested as needed by the Ballistic Missiles Division and approved by the Advanced Research Projects Agency. Separate funds will be authorized for approved public works. Upon approval of detailed development and financial plans, as required herein or in accordance with amendments to this Order, these funds will be increased as appropriate.

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Cy 1 of 2

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4. The Director, Advanced Research Projects Agency, will provide policy and technical guidance, either directly or through designated resident representatives. The Ballistic Missiles Division will be responsible for arranging for the detailed technical direction necessary to accomplish the specified objectives and to comply with ARPA policy and technical guidance. This general relationship may be specified in greater detail by amendment to this Order if such action is necessary.

5. The Director, Advanced Research Projects Agency, and the Office of the Secretary of Defense will be kept informed by such management, technical and accounting reports as may be prescribed pursuant to this Order.

6. The use of equipment and materials procured in connection with these projects is subject to direction of ARPA and all reports, manuals, charts, data and information as may be collected or prepared in connection with the projects shall be made available to ARPA prior to release to other agencies or individuals under procedures to be approved.

7. The Ballistic Missiles Division shall be responsible for preserving the security of these projects in accordance with the security classifications assigned and the security regulations and procedures of the Department of the Air Force.

8. Notwithstanding any other provisions of this Order, BMD shall not be bound to take any action in connection with the performance of this work that would cause the amount for which the Government shall be obligated hereunder to exceed the funds made available, and the obligation of the BMD to proceed with the performance of this work shall be limited accordingly. BMD shall be responsible for assuring that all commitments, obligations and expenditures of the funds made available are made in accordance with the statutes and regulations governing such matters provided that whenever such regulations require approval of higher authority such approvals will be obtained from or through the Director, Advanced Research Projects Agency, or his designated representative.

/s/ Roy W. Johnson
/t/ Roy W. Johnson
Director

cc: Secretary of the Air Force

WD-58-04641 Series A
Cy 1 of 2

ADVANCED RESEARCH PROJECTS AGENCY
WASHINGTON 25, D.C.

ARPA Order No. 48-60
Amendment No. 7
Project Code No. 3100

October 8, 1959 DATE

TO: The Secretary of the Air Force
Washington 25, D.C

ARPA Order No. 48, dated December 16, 1958, as amended, is hereby further amended to increase the fund availability by $15,000,000 from $132,550,000 to a new total of $147,550,000 under appropriation and account symbol "97X113.002 Salaries and Expenses, Advanced Research Projects Agency, Department of Defense." This funding provides for work during the month of October 1959.

John E. Clark
Rear Adm., USN
Acting Director

Copy to: Commander, ARDC

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ADVANCED RESEARCH PROJECTS AGENCY
Washington 25, D. C.

ARPA Order No. 48-59
Amendment No. 3

April 1, 1959 Date

TO: The Secretary of the Air Force
Washington, D. C.

1. Paragraph 5, ARPA Order No. 48-59, dated December 16, 1958, is superseded by the following. Attachment No. 1 to the basic Order is superseded by Attachment No. 1 to this Amendment.

> The Director, Advanced Research Projects Agency, will be kept informed of the status of work assigned under this Order by a Monthly Progress Report, a Quarterly Progress Report, and a Semiannual Technical Summary Report, to be prepared and submitted in accordance with procedures outlined in Attachment No. 1. These reports represent ARPA's presently foreseeable requirements for reporting under ARPA Order No. 48-59.

2. Distribution of AFBMD reports required by ARPA on work performed under ARPA Order No. 48-39 to agencies within USAF will be decided by AFBMD in consonance with established USAF procedures. Requests for copies of these reports by agencies outside USAF will be referred to ARPA for approval.

Roy W. Johnson
Director

1 Incl:
Attachment No. 1

Copy to: Commander, ARDC
Commander, AFBMD

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Attachment No 1

ARPA Order No 48-59
Amendment No. 3

PREPARATION OF REPORTS

I. Monthly Progress Report

a. Narrative Section. A letter report will be submitted by AFBMD giving a narrative account of work performed under ARPA Order No. 48-59. The letter report will cover work performed each month with the exception of the last month (March, June, September and December) of each calendar quarter. The quarterly progress report prescribed below will be submitted in lieu of the letter report for the last month of each calendar quarter The initial letter report under this directive will be for the month of April 1959. Letter reports will be submitted in quadruplicate to the Director, Advanced Research Projects Agency, and are due within 10 days following the month reported.

The report will be in letter form, preferably not exceeding three pages, and will present a brief narrative summary of progress during the reporting period Each report should make specific reference to the following topics (1) technical status, (2) problems encountered, (3) work schedules, and (4) action required by ARPA. Photographs and illustrative material will be submitted as appropriate. The ARPA Order number, name of contractor, date of contract, contract number, amount of contract, and title of the project should be stated in the heading of each report,

b. Milestone Section. Instructions for preparation of a milestone progress report, which requires use of a standard format in reporting actual progress against planned progress in accomplishing major milestone, will be issued at a later date.

II. Quarterly Progress Report

The purpose of the quarterly progress report is to provide the President and the Secretary of Defense and their staff with periodic summary information by which they may be kept informed of overall progress and results in certain of the satellite projects.

Frequency and Due Date. The quarterly progress report will be prepared for submission to the President each calendar quarter and will show a summary of progress and significant events during the

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quarter. The report should reach ARPA no later than the 11th of the month following the close of the quarter reported. When the 11th falls on a non-workday, the report will be due the following workday. The initial report under this directive will be for the quarter ending March 31, 1959.

Content. The quarterly progress report will cover the progress, special achievements, problems encountered, schedules and overall status of the program. It is essential that the content be carefully organized and that the material is presented briefly, clearly and concisely.

Format.

PART A. Brief of Progress During the Quarter. The brief should not exceed one-half page in length and should present the outstanding highlights of progress and status of the program.

PART B Topical Summary. The topical summary consists of a series of summary headings, each of which is followed by a summary paragraph or paragraphs. The summary paragraphs are not limited in number but generally should not exceed 15 lines in length. Each paragraph should be abstracted in a marginal heading appearing at the left margin opposite the first line of the paragraph. All elaborative detail should be relegated to Part C and reference noted thereto, as appropriate. Suggested summary headings for the DISCOVERER Project are:

DISCOVERER PROJECT

DISCOVERER FLIGHTS

Flight I
Flight II, etc.

FACILITIES AND SITES

Launch
Tracking

GENERAL

Satellite Airframe Subsystem
Satellite Propulsion Subsystem

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Attachment No. 1

ARPA Order No. 48-59
Amendment No. 3

GENERAL (continued)

- Auxiliary Power Subsystem
- Satellite Guidance and Control Subsystem
- Data Handling Subsystem
- Biomedical Recovery Program

These headings may be revised or added to by the preparing agency from time to time, as appropriate.

PART C. Descriptive Detail All detailed description and back-up information considered necessary to the completeness of the report will be confined to Part C. Examples are description and lay-out of tracking stations, map sketches of location of facilities, and details of design and testing of equipment. A glossary sheet listing standard equipment and systems terminology and specifications should be included.

Photographs and Sketches. Photographs and sketches selected to show progress of the work and depict development of equipment should accompany each report. To facilitate printing, photographs and sketches will be in black-and-white glossy finish on 8X10-1/2-inch paper. Each photograph should contain some commonly known object to indicate scale and be clearly captioned.

General. The quarterly progress report will be assembled with those of other satellite projects into a single Department of Defense Military Satellite Program Progress Report and transmitted to the President. It is desired that the format of the report to the President be carefully followed in preparing the report for your project to enable ARPA to print and transmit the consolidated report to the White House with minimum rewriting and editing delay.

III. Semiannual Technical Summary Report

A technical summary report will be prepared semiannually for periods ending June 30 and December 31 of each year. The report will present a concise and factual discussion of technical findings and accomplishments during the period. Six copies of the report will be submitted to the Director, Advanced Research Projects Agency, and are due within 30 days following the close of the report

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period. Upon completion of the project, a final report will be submitted summarizing the entire project. The final completion report will be submitted in lieu of the regular semiannual report to reach the Director, Advanced Research Projects Agency, within 60 days following project completion. The ARPA Order number, name of contractor, and title of the project should be stated in the heading of each report.

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ADVANCED RESEARCH PROJECTS AGENCY
Washington 25, D. C.

ARPA Order No. 48-59
Amendment No. 2

March 24, 1959 Date

TO: The Secretary of the Air Force
Washington 25, D. C.

The Development and Funding Plan, dated January 30, 1959, for the DISCOVERER program, is hereby approved. This approval pertains to the 13-vehicle program.

Further program guidance will be in accordance with Paragraph 4 of the basic Order.

Roy Johnson

Roy W. Johnson
Director

Copy to: Commander, ARDC

ADVANCED RESEARCH PROJECTS AGENCY
WASHINGTON 25, D. C.

ARPA Order No. 48-59
Amendment No. 1

February 16, 1959 Date

TO: The Secretary of the Air Force
Washington 25, D. C.

The program objectives and related funding for the DISCOVERER program as presented to ARPA February 4, 1959, are, in general, approved.

It is particularly noted that this approval pertains to the 13 vehicle program.

Accordingly, ARPA Order No. 48-59, dated December 16, 1958, is hereby amended to make available $104,300,000 under appropriation and account symbol "97X0113.002 Salaries and Expenses, Advanced Research Projects Agency, Department of Defense."

The decrease of $1,700,000 in the amount authorized from the $106,000,000 requested in the Development Plan has been explained to your staff.

The Development and Funding Plan, dated January 30, 1959, pertaining to the DISCOVERER program, is being reviewed and specific comments relating thereto will be provided for further program guidance.

Roy W. Johnson
Director

Copy to: Commander, ARDC

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ADVANCED RESEARCH PROJECTS AGENCY
Washington 25, D. C.

ARPA Order No. 48-59

December 16, 1958 Date

TO: The Secretary of the Air Force
Washington 25, D. C.

1. Pursuant to the provisions of DoD Directive 5105.15, dated February 7, 1958, you are requested to continue on behalf of the Advanced Research Projects Agency with the project specified below. Additional details and directives may be issued by ARPA from time to time and will become a part of this Order when so specified.

2. The study, development, and launch operations associated with the Thor program, heretofore included in ARPA Order No. 9-58 for the Sentry Program, are to be continued as an independent project identified as the Discoverer-Thor Project (U).

3. At the conclusion of the present program review, the costs allocable to this project since July 1, 1958, which have been charged to ARPA Order No. 9-58, shall be identified and transfered to this Order, at which time the funds shall be adjusted by ARPA as appropriate. You are requested to submit to ARPA by January 15, 1959, a financial plan which will be the basis for determining the division of funds.

4. The Director, Advanced Research Projects Agency, will provide policy and technical guidance either directly or through designated representatives. The Secretary of the Air Force will be responsible for arranging for the detailed technical directions necessary to accomplish the specified objectives and to comply with ARPA policy and technical guidance. This general relationship may be specified in greater detail by amendment to this Order if such action is necessary.

5. The Director, Advanced Research Projects Agency, and the Office of the Secretary of Defense will be kept informed of the status of work assigned under this Order by a monthly progress report and a semi-annual technical report to be prepared and submitted in accordance with procedures outlined in Attachment No. 1. These reports represent ARPA's total foreseeable requirement for recurring reports based on this Order.

6. The utilization of equipment and materials procured in connection with this project for other projects is subject to the direction of ARPA. Notwithstanding, final disposition of such equipment and materials shall be made in accordance with standard procedures. Any technical and scientific information relating to work under this Order which may be published from time to time shall give appropriate credit to the ARPA project. No scientific and technical progress and status reports on ARPA's projects or final completion reports prepared specifically at ARPA's request shall be made available to other agencies or individuals without approval of ARPA.

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WD-59-00248 Series A
Cy 1 of 2

7. Sec/Air shall be responsible for preserving the security of this project in accordance with the security classification assigned and the security regulations and procedures of the Department of the Air Force.

8. Notwithstanding any other provisions of this Order, the Secretary of the Air Force shall not be bound to take any action in connection with the performance of this work that would cause the amount for which the Government will be obligated hereunder to exceed the funds made available, and the obligations to the Secretary of the Air Force to proceed with the performance of this work shall be limited accordingly. The Secretary of the Air Force shall be responsible for assuring that all commitments, obligations, and expenditures of the funds made available are made in accordance with the statutes and regulations governing such matters, provided that whenever such regulations require approval of higher authority such approvals will be obtained from or through the Director, ARPA, or his designated representative.

/s/ Roy W. Johnson
/t/ Roy W. Johnson
Director

1 Incl.
Attachment No. 1
(not rec'd)

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ARPA Order No. 38-59

November 5, 1958 Date

TO: Commander
Air Research and Development Command
Andrews Air Force Base
Washington 25, D. C.

1. Pursuant to the provisions of DoD Directive 5105.15, dated February 7, 1958, you are requested to proceed at once on behalf of the Advanced Research Projects Agency with the project specified below. Additional details and directives may be issued by ARPA from time to time and will become a part of this Order when so specified.

2. Study and development begun as Subsystem G of Weapon System 117L are to be continued, in accordance with this outline, as an independent project, to result in an orbitally flight tested Missile Defense Alarm Satellite (MIDAS) (U). Tasks to be carried out are:

a. Prepare for approval by ARPA a definitive statement of work remaining to be done and costs to be incurred on development, ground testing, and limited orbital flight testing of a Missile Defense Alarm Satellite, including necessary communication capability, and including studies aimed at defining a development program for a more advanced capability for missile defense alarm. The project definitively stated should be completed by April 30, 1960, and the work statement should indicate intended dates of reaching important milestones, against which progress of the projects can be monitored, and estimates for work to be performed (1) by ARDC, (2) by contract, and (3) at other Government facilities. The statement of the program to be prepared should be submitted to ARPA by December 15, 1958.

b. Continue fabrication of two completely functioning infrared-sensing satellite payloads. Plan completion in fully functioning form of an additional payload, initially only a thermal simulacrum.

c. Initiate study and development of satellite/ground communication equipment specifically needed for initial flight tests.

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WDGEV-361-58 Series A
Cy 1 of 2

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d. Initiate design effort necessary properly to integrate payload and THOR-boosted SENTRY vehicle on an experimental basis, and to insure availability of auxiliary power adequate to permit significant data accumulation during test flights.

e. Plan early orbital flight experiments, to use the basic satellite vehicle of the SENTRY program, boosted by THOR missiles. These experiments should evaluate satellite stabilization and communications, as well as infrared payload and signals.

f. Initiate preliminary design study of infrared trackers and precise direction readout devices, leading toward an integrated missile-defense alarm payload of more advanced capabilities.

g. Plan further orbital experiments, to use vehicles and payloads more advanced than those of the initial flight tests.

h. Examine the possibility of designing simple experiments and building simple payloads to make use of possible excess load capacity on missile or satellite flights of other programs, for obtaining additional data of value to the MIDAS project.

i. Continue, for the present, experimental program to secure physical data on infrared phenomena, as needed for effective engineering development of the alarm satellite. Process results of these experiments, and of other measurement programs, to contribute most effectively to the MIDAS project.

3. This Order makes available $750,000 under appropriation and account symbol "97X0113.002 Salaries and Expenses, Advanced Research Projects Agency, Office of the Secretary of Defense" for obligation by the Air Research and Development Command on behalf of the Advanced Research Projects Agency only for purposes necessary to accomplish the work specified herein. These funds are for the period November 1, 1958, to January 31, 1959, and immediately available for direct obligation and for use in reimbursing the Air Research and Development Command for costs incurred under this Order. The funds made available are not for the construction of facilities.

4. The costs chargeable to this project (formerly Subsystem G) since July 1, 1958, and charged to ARPA Order No. 9, shall be identified and transferred to this Order. Funds shall be adjusted by ARPA as appropriate.

5. The Director, Advanced Research Projects Agency, will provide policy and technical guidance either directly or through designated representatives. The Air Research and Development Command will be responsible for arranging for the detailed technical directions necessary to accomplish the specified objectives and to comply with ARPA policy and technical guidance. This general relationship may be specified in greater detail by amendment to this Order if such action is necessary

6. The Director, Advanced Research Projects Agency, will be kept informed of the status of work assigned under this Order by a monthly progress report and a semi-annual technical report to be prepared and submitted in accordance with procedures outlined in Attachment No. 1. These reports represent ARPA's total foreseeable requirement for recurring reports based on this Order.

7. The utilization of equipment and materials procured in connection with this project for other projects is subject to the direction of ARPA. Notwithstanding, final disposition of such equipment and materials shall be made in accordance with standard procedures. Any technical and scientific information relating to work under this Order which may be published from time to time shall give appropriate credit to the ARPA project. No scientific and technical progress and status reports on ARPA s projects or final completion reports prepared specifically at ARPA's request shall be made available to other agencies or individuals without approval of ARPA.

8. ARDC shall be responsible for preserving the security of this project in accordance with the security classification assigned and the security regulations and procedures of the Department of the Air Force.

9. Notwithstanding any other provisions of this Order, ARDC shall not be bound to take any action in connection with the performance of this work that would cause the amount for which the Government will be obligated hereunder to exceed the funds made available, and the obligations to ARDC to proceed with the performance of this work shall be limited accordingly. ARDC shall be responsible for assuring that all commitments, obligations and expenditures of the funds made available are made in accordance with the statutes and regulations governing each matter, provided that whenever such regulations require approval of higher authority such approvals will be obtained from or through the Director, ARPA, or his designated representative.

/s/ Roy W. Johnson
/t/ Roy W. Johnson
Director

Attachment:
No. 1

cc: Secretary of the Air Force

WDGEV-361-58 Series A
Cy 1 of 2

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ADVANCED RESEARCH PROJECTS AGENCY
Washington 25, D. C.

ARPA Order No. 38-59
Amendment No. 3

April 16, 1959 Date

TO: Commander
Air Research and Development Command
Andrews Air Force Base
Washington 25, D. C.

On the basis of an on-site detailed technical review of the MIDAS Phase I Development Plan, the $20,200,000 FY 1959 Phase I program relating to the four experimental flights is approved subject to the following changes:

1. The program objective shall be strongly reoriented to give a high priority to deriving from each flight a maximum of quantitative, scientific, and engineering data to insure the accumulation of sufficient data to:

a. Predict the success or failure of an alarm system in an operational role:

b. Permit progressive improvement of the alarm system during the development program: and

c. Permit design of other infrared equipment for optimized operational early warning or tracking system.

2. The contractor shall be directed to analyze quantitatively the gains in background rejection, possible through signal-data processing, for example for use of moving-target-indicator methods.

Details on the above changes will be forwarded under separate cover.

In addition to Phase I, FY 1959 funds in the amount of $2,600,000 are authorized only for the urgent lead-time procurement required for boosters, vehicles and engines under Phase II.

Total FY 1959 funding in the amount of $22,800,000 mentioned above is contingent upon ARPA's receipt of additional funds from the Secretary of Defense Emergency Fund. In the interim, the fund availability is hereby increased from $8,000,000 to a new total of $10,800,000 under appropriation and account symbol "97X0113.002 Salaries and Expenses, Advanced Research Projects Agency, Department of Defense."

/s/ Roy W. Johnson

Roy W. Johnson
Director

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Copy to: Secretary of the Air Force

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ADVANCED RESEARCH PROJECTS AGENCY
Washington 25, D. C.

ARPA Order No. 38-59
Amendment No. 2

April 1, 1959 Date

TO: Commander
Air Research and Development Command
Andrews Air Force Base
Washington 25, D. C.

1. Paragraph 6, ARPA Order No. 38-59, dated November 5, 1958, is superseded by the following. Attachment No. 1 to the basic Order is superseded by Attachment No. 1 to this Amendment.

> "The Director, Advanced Research Projects Agency, will be kept informed of the status of work assigned under this Order by a Monthly Progress Report, a Quarterly Progress Report and a Semi-annual Technical Summary Report, to be prepared and submitted in accordance with procedures outlined in Attachment No. 1. These reports represent ARPA's presently foreseeable requirements for reporting under ARPA Order No. 38-59.

2. Distribution of AFBMD reports required by ARPA on work performed under ARPA Order No. 38-59 to agencies within USAF will be decided by AFBMD in consonance with established USAF procedures. Requests for copies of these reports by agencies outside USAF will be referred to ARPA for approval.

Roy W. Johnson
Director

1 Incl:
Attachment No. 1

Copy to: Secretary of the Air Force
Cdr., ARDC
Cdr., AFBMD

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Upon removal of attachment this document becomes Unclassified.

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Attachment No. 1

ARPA Order No. 38-59
Amendment No. 2

PREPARATION OF REPORTS

I. Monthly Progress Report

a. Narrative Section. A letter report will be submitted by AFBMD giving a narrative account of work performed under ARPA Order No. 38-59. The letter report will cover work performed each month with the exception of the last month (March, June, September and December) of each calendar quarter. The quarterly progress report prescribed below will be submitted in lieu of the letter report for the last month of each calendar quarter. The initial letter report under this directive will be for the month of April 1959. Letter reports will be submitted in quadruplicate to the Director, Advanced Research Projects Agency, and are due within 10 days following the month reported.

The report will be in letter form, preferably not exceeding three pages, and will present a brief narrative summary of progress during the reporting period. Each report should make specific reference to the following topics: (1) technical status, (2) problems encountered, (3) work schedules, and (4) action required by ARPA. Photographs and illustrative material will be submitted as appropriate. The ARPA Order number, name of contractor, date of contract, contract number, amount of contract, and title of the project should be stated in the heading of each report.

b. Milestone Section. Instructions for preparation of a milestone progress report, which requires use of a standard format in reporting actual progress against planned progress in accomplishing major milestones, will be issued at a later date.

II. Quarterly Progress Report

The purpose of the quarterly progress report is to provide the President and the Secretary of Defense and their staff with periodic summary information by which they may be kept informed of overall progress and results in certain of the satellite projects.

Frequency and Due Date. The quarterly progress report will be prepared for submission to the President each calendar quarter and will show a summary of progress and significant events during

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the quarter. The report should reach ARPA no later than the 11th of the month following the close of the quarter reported. When the 11th falls on a non-workday, the report will be due the following workday. The initial report under this directive will be for the quarter ending March 31, 1959.

Content: The quarterly progress report will cover the progress, special achievements, problems encountered, schedules and overall status of the program. It is essential that the content be carefully organized and that the material is presented briefly, clearly and concisely.

Format:

PART A. Brief of Progress During the Quarter. The brief should not exceed one-half page in length and should present the outstanding highlights of progress and status of the program.

PART B. Topical Summary. The topical summary consists of a series of summary headings, each of which is followed by a summary paragraph or paragraphs. The summary paragraphs are not limited in number but generally should not exceed 15 lines in length. Each paragraph should be abstracted in a marginal heading appearing at the left margin opposite the first line of the paragraph. All elaborative detail should be relegated to Part C and reference noted thereto, as appropriate. Suggested summary headings for the MIDAS Project are:

MIDAS PROJECT

MIDAS FLIGHTS

- Flight I
- Flight II, etc.

FACILITIES AND SITES

- Launch
- Tracking

GENERAL

- Infra-red Subsystem
(Certain basic subsystem hardware for the MIDAS Project presently being

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GENERAL (continued)

developed under the DISCOVERER Project will be reported under the DISCOVERER Project and reference made thereto.)

These headings may be revised or added to by the preparing agency from time to time, as appropriate.

PART C. Descriptive Detail. All detailed description and backup information considered necessary to the completeness of the report will be confined to Part C. Examples are description and layout of tracking stations, map sketches of location of facilities, and details of design and testing of equipment. A glossary sheet listing standard equipment and systems terminology and specifications should be included.

Photographs and Sketches. Photographs and sketches selected to show progress of the work and depict development of equipment should accompany each report. To facilitate printing, photographs and sketches will be in black-and-white glossy finish on 8X10-1/2-inch paper. Each photograph should contain some commonly known object to indicate scale and be clearly captioned

General The quarterly progress report will be assembled with those of other satellite projects into a single Department of Defense Military Satellite Program Progress Report and transmitted to the President It is desired that the format of the report to the President be carefully followed in preparing the report for your project to enable ARPA to print and transmit the consolidated report to the White House with minimum rewriting and editing delay.

III. Semiannual Technical Summary Report.

A technical summary report will be prepared semiannually for periods ending June 30 and December 31 of each year. The report will present a concise and factual discussion of technical findings and accomplishments during the period. Six copies of the report will be submitted to the Director, Advanced Research Projects Agency, and are due within 30 days following the close

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of the report period Upon completion of the project, a final report will be submitted summarizing the entire project. The final completion report will be submitted in lieu of the regular semiannual report to reach the Director, Advanced Research Projects Agency, within 60 days following project completion. The ARPA Order number, name of contractor, and title of the project should be stated in the heading of each report.

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ADVANCED RESEARCH PROJECTS AGENCY
Washington 25, D. C.

5 December 1958

MEMORANDUM FOR THE UNDER SECRETARY OF THE AIR FORCE

SUBJECT: DISCOVERER-THOR Project and SENTRY Programs

In accordance with our agreement of yesterday, it is requested that the following instructions be forwarded to BMD concerning the DISCOVERER-THOR project and SENTRY programs:

"Recent fiscal determinations incident to the formulation of the 1960 Budget have necessitated the modification of the SENTRY Development Program. Furthermore, the inception of the DISCOVERER Program as it is constituted from elements also creates a requirement for program management dterminations.

"In response to these influences, the ARPA staff has proposed a reorientation of the two programs. The details of the proposal have been furnished to Program Management personnel of the Air Force Ballistic Missile Division. Acknowledging the tenuous nature of this proposal until further detailed study can be made by the Project Personnel, it is the purpose of this memorandum to request such a study and present the findings for our joint consideration on the 15th of December. It is our objective to reach a final determination as to the content of the programs for FY 1960 and balance of FY 1959 in their major elements by 17 December.

"The actions suggested in the ARPA proposal should each be reviewed with the objective of determining fiscal and project timing implications. Where contract cancellations are involved, an assessment of industrial impact should be made. In general, the goal should be to determine the practicality of making the downward adjustments suggested, the cost in time and money for implementing the new program elements suggested, and alternative suggestions where program elements suggested by the ARPA staff are determined to be impractical.

"For the purposes of this review, it should be assumed the development resources available will amount to $213.3 million in FY 59 and $160 million in FY 60. Intelligence requirements as they might influence the evaluation should be based on the best information that can be made available in the time period provided. It is recognized that fully refined information cannot be made available by the dates suggested herein.

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However, it seems likely that sufficiently accurate determinations can be made as to permit major decisions which are necessary for the formulation of a final development plan.

"In the interim period, until the major program decisions are finalized, the Air Force Ballistic Missile Division should be directed to withhold any major fund commitments that go beyond the scope of the ARPA proposal. In those areas that might be designated for cancellation, no material procurements should be authorized beyond the absolute minimum necessary for preserving the continuity of engineering effort."

/s/ Roy W. Johnson

Roy W. Johnson
Director

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//SECRET//[illegible] FROM RDZGW-26-5-43E. AFBMD CLN WDZW, COLONEL OBER THE FOLLOWING MEMORANDUM FROM MR. R W JOHNSON IS QUOTED FOR YOUR INFORMATION. QUOTE. SUBJECT CLN ARPA ORDER [illegible] NO. 9-58, SENTRY PROJECT AMENDMENT NO. II, DATED APRIL 14, 1959, TO ARPA ORDER NO. 9-58, SPECIFIES THAT THE SENTRY DEVELOPMENT PROGRAM IS APPROVED TO THE EXTENT THAT IT PERTAINS TO PAYLOAD PROGRAMS OF VISUAL RECONNAISSANCE READOUT, VISUAL RECONNAISSANCE RECOVERY, AND FERRET READOUT. THE SENTRY [illegible] MONTHLY PROGRAM PROGRESS REPORT, DATED MAY 8, 1[illegible] 1959, ISSUED BY THE AIR FORCE BALLISTIC MISSILE DIVISION, DISCLOSES THAT A MAPPING PAYLOAD WAS A PART OF THE REORIENTED SENTRY PROGRAM.

(A - PARAPHRASE NOT REQUIRED EXCEPT PRIOR
TO CATEGORY B ENCRYPTION-PHYSICALLY REMOVE
ALL INTERNAL REFERENCES BY DATE-TIME GROUP
PRIOR TO DECLASSIFICATION.)

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YOU ARE ADVISED THAT MAPPING IS NOT AN APRA APPROVED OR AUTHORIZED PART OF THE SENTRY PROGRAM AS REORIENTED. ALL WORK AND CONTRACTS FOR MAPPING OBJECTIVES UTILIZING ARPA SENTRY FUNDS SHALL BE TERMINATED IMMEDIATELY. UNQUOTE.

BT
26/2107Z MAY RJEZFF

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24 June 59

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FROM COMDR ARDC ANDREWS AFB MD
TO COMDR AFBMD LOS ANGELES 45 CALIF

BT

~~CONFIDENTIAL~~/RDZGW/24/6/31E. ATN CLN WDP, WDGE, WDZ, WDZW, WDC, QUOTED FOR YOUR INFORMATION AND ACTION IS A MESSAGE FROM OSD ARPA, DATED 24 JUNE 59. QUOTE. CONFIDENTIAL CITE DEF 961412 FROM OSD ARPA SGD JOHNSON PARA INITIAL ARPA FY 1960 BUDGET DETEMINATIONS INDICATE THE FOLLOWING ANNUAL AMOUNTS SHOULD BE USED AS GUIDANCE IN SCHEDULING THE WORK CLN/1/SENTRY $135,000,000. THIS AMOUNT IS BASED ON DEFERRING, PENDING AN ARPA PROGRAM REVIEW, THAT PORTION OF THE PROGRAM UTILIZING A RECOVERABLE SYSTEM. /2/ DISCOVERER $34,000,000 FOR COMPLETION OF THE EXTENSION OF THE SERIES. /3/MIDAS $18,000,000 OF ARPA FUNDS. IT IS ASSUMED THAT $28.9.

PAGE TWO

MILLION OF AF FUNDS AS SHOWS IN REVISED DEVELOPMENT PLAN WILL BE AVAILABLE AT SUCH TIME AS PHASE II IS APPROVED. PARA OTHER PROGRAM DEMANDS ON ARPA ARE SUCH THAT NO INCREMENT IN ADDITION TO THE ABOVE CAN BE COUNTED ON AND THEREFORE IT IS IMPERATIVE THAT YOU CONTRACTOR EFFORT TO STAY WITHIN THE AMOUNTS AVAILABLE. YOU ARE REQUESTED TO SUBMIT REVISED DEVELOPMENT AND FUNDING PLANS BASED ON THE ABOVE GUIDANCE AS SOON AS POSSIBLE ARPA PROJECT STAFF WILL VISIT BMD FOR PROGRAM REVIEW IN NEAR FUTURE. PARA PENDING PASSAGE OF APPROPRIATION AND APPORTIONMENT FY 1960 FUNDING WILL BE ON A MONTHLY BASIS. ADVISE AMOUNT FOR EACH MONTH JULY AND AUGUST FOR EACH PROJECT. UNQUOTE.

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7 Aug 59

//~~CONFIDENTIAL~~//CITE DEF 963459 FROM ARPA XXX SGD CLARK
EFFECTIVE IMMEDIATELY SUBJ PROGRAM IS REDESIGNATED SAMOS. PURPOSE OF NEW DESIGNATION IS TO IDENTIFY RECONNAISSANCE PROGRAM" WITH INNOCUOUS NAME THAT DOES NOT RPT NOT HAVE MISSION ASSOCIATION. SAMOS NAME IS UNCLASSIFIED. SAMOS USED IN CONJUNCTION WITH RECONNAISSANCE SATELLITE PROGRAM ALSO UNCLASSIFIED. HOWEVER, ATTENTION IS INVITED TO FACT THAT INTELLIGENCE PROGRAMS MUST BE PROTECTED AS SUCH. ALL PUBLIC STATEMENTS TX OTHER THAN SIMPLE CONFIRMATION THAT SENTRY HAS BEEN REDESIGNATED SAMOS WILL BE CLEARED WITH ARPA. ALL INFORMATION RELATIVE TO SCHEDULES IS CLASSIFIED. WITHIN

PAGE TWO RJWZNF 10F EVERY
CLASSIFIED CHANNELS EXYEXY EFFORT WILL BE MADE TO REDUCE PROGRAM DATA ACCESS AND TO RESTRICT PROGRAM INFORMATION TO AXXEXX A RIGID NEED-TO-KNOW BASIS. STRICT ADHERENCE TO THESE MEASURES MUST BE EFFECTED. POSITIVE ACTION XXXX UNDER APPROPRIATE SECURITY REGULATIONS AND DIRECTIVES WILL BE TAKEN RELATIVE TO UNAUTHORIZED RELEASES. THIS INFORMATION SHOULD BE DISSEMINATED THROUGHOUT THE DEPARTMENT OF DEFENSE AND TO ALL PERTINE AGENCIES AND CONTRACTORS
BT
THIS CAT "AC" MSG
07/0824Z AUG RJWZNF

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11

C O P Y

21 Oct 59

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IC 10814

PP RJWZBK
DE RJEZFF 08
P 211035Z
FM COMDR ARDC ANDREWS AFB MD
TO AFBMD LOS ANGELES CALIF
BT

SMCLN WDZ, COL CURTIN SMCLN WDZS, COL ODER SMCLN WDZA, COL WORTHMAN. THIS MESSAGE IN TWO PARTS. PART I. REFERENCE IS MADE TO MESSAGE CITE CLN RDRRB-20-10-1-E, DATED 20 OCTOBER 1959. PART II. QUOTED FOR YOUR INFORMATION AND ACTION IS A MESSAGE FROM USAF CITE CLN AFDAT 1259/59. QUOTE SECRET FROM AFDAT 1259/59. THIS MESSAGE IN FOUR PARTS. PART I. ON 18 SEP 59 THE SECRETARY OF DEFENSE APPROVED THE ASSIGNMENT TO THE AIR FORCE OF THE INTERIM SATELLITE EARLY WARNING SYSTEM/MIDAS/AND PHASE I OF THE SATELLITE RECONNAISSANCE SYSTEM, PRIOR TO ASSUMING THE RESPONSIBILITY FOR THESE PROGRAMS, THE DEPARTMENT OF THE AIR FORCE WILL SUBMIT TO THE SECRETARY OF DEFENSE FOR HIS APPROVAL DETAILED PLANS FOR THESE SYSTEMS, INCLUDING USER RELATIONSHIPS WITH THE UNIFIED AND SPECIFIED COMMANDS AND OTHER APPROPRIATE AGENCIES. PRIOR TO APPROVING THESE PLANS, THE SECRETARY OF DEFENSE WILL REFER SUCH PLANS TO THE JOINT CHIEFS OF STAFF FOR COMMENT AND RECOMMENDATIONS. THE DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING WILL REVIEW AND APPROVE THE DETAILED RESEARCH AND DEVELOPMENT PROGRAMS UTILIZING WHERE APPROPRIATE THE SUPPORT OF ARPA. PART II. FOR THE PURPOSE OF PREPARING THE NECESSARY PLANS FOR SUBMISSION BY THE DEPARTMENT OF THE AIR FORCE TO THE SECRETARY OF DEFENSE, THE FOLLOWING PLANNING RESPONSIBILITIES ARE ASSIGNED CLN.

A. SAMOS DEVELOPMENT PLAN WILL BE PREPARED BY ARDC, SAMOS OPERATIONAL PLAN WILL BE PREPARED BY AMC.

B. MIDAS DEVELOPMENT PLAN WILL BE PREPARED BY ARDC, OPERATIONAL PLAN FOR MIDAS WILL BE PREPARED BY ADC/IN COLLABORATION WITH SAC AND ARDC/, AND LOGISTICS SUPPORT PLAN WILL BE PREPARED BY AMC.

FULLEST COLLABORATION OF ALL PARTICIPANTS IN THE FORMULATION OF THE ABOKE PLANS IS DIRECTED. PART III. THE FOLLOWING GUIDANCE AND PLANNING ASSUMPTIONS WILL BE USED BY PLANNING COMMANDS CLN.

A. A SINGLE AIR FORCE PLAN FOR SAMOS AND ANOTHER FOR MIDAS WILL BE PREPARED FOR SUBMISSION TO THE SECRETARY OF DEFENSE BY THIS HEADQUARTERS BASED ON THE PLANS PROVIDED BY COMMANDS INDICATED IN PART II ABOVE,

B. PLANS WILL BE SUBMITTED TO THIS HEADQUARTERS TO ARRIVE NLT 23 NOV 59 WITH THE VIEW TO SUBMISSION OF PLANS TO THE SECRETARY OF DEFENSE BY THIS HEADQUARTERS NLT 1 DEC 59.

C. PLANNING COMMANDS WILLASSUME, FOR PLANNING PURPOSES, THAT SAMOS WILL BE THE OPERATIONAL RESPONSIBILITY OF SAC AND MIDAS WILL BE THE OPERATIONAL RESPONSIBILITY OF ADC. SEE PLANNING ASSUMPTIONS J THROUGH N BELOW.

D. SAMOS OPERATIONAL PLAN WILL INCLUDE USER RELATIONSHIPS WITH INTELLIGENCE AGENCIES AND THE UNIFIED AND SPECIFIED COMMANDS.

E. MIDAS OPERATIONAL PLAN WILL INCLUDE USER RELATIONSHIPS WITH AFCIN, OTHER INTELLIGENCE AGENICES, CINCNORAD, SAC, AND OTHER UNIFIED AND SPECIFIED COMMANDS.

F. ALL PLANS WILL INCLUDE ESTIMATED COSTS BASED ON BEST DATA PRESENTLY AVAILABLE TO PLANNING [illegible] COMMANDS.

G. PLANS WILL REFLECT MAXIMUM USE OF RESOURCES COMMON TO SAMOS AND MIDAS AND OF FACILITIES AVAILABLE TO COMMANDS.

H. ASSUME THAT FOLLOWING COMPLETION FOR CONTRACTOR LAUNCHES, EARLY MILITARY LAUNCHES OF SAMOS AND MIDAS WILL BE ACCOMPLISHED BY THE 6594 TEST WING.

I. PLANS WILL REFLECT AGREED EARLIEST LOGICAL DATE OF TRANSFER OF 6594 TEST WING FROM ARDC TO SAC AFTER ATTAINMENT OF INITIAL OPERATIONAL CAPABILITY FOR SMAOF BY ARDC.

J. RESPONSIBILITY FOR LAUNCH AND ORBIT INJECTION OF BOTH SAMOS AND MIDAS WILL BE IGNED TO SAC UPON GAINING 6594 TEST WING.

K. SAMOS-MIDAS TRACKING AND ACQUISITION STATIONS WILL BE CONTROLLED AND MANNED BY SAC WITH ADC REPRESENTATION AS REQUIRED.

L. WHEN BOTH SYSTEMS BECOME OPERATIONAL LAUNCH, ORBIT INJECTION, OF MIDAS SATELLITES & ORBIT WILL HAVE PRIORITY OVER SIMILAR FUNCTIONS FOR SAMOS VEHICLES SHOULD CONFLICTS [illegible].

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ZA. MIDAS READOUT STATIONS WILL BE MANNED AND OPERATED BY ADC PERSONNEL. ADC WILL PLAN FOR SIMULTENEOUS READ-TI DATE DISPLAY AT BOTH NORAD, COC AND SAC HEADQUARTERS.

M. FOR CINCNORAD ADC WILL HAVE OPERATIONEAL RESPONSIBILITY FOR ALL TECHNICAL OPERATIONS COMMANDS WHICH ARE GIEEN TO THE MIDAS SATELLITE BY SAC CONTROL CENTER AFTER MIDAS SATELLITE BY SAC CONTROL CENTER AFTER MIDAS SATELLITES ARE PLACED IN ORBIT BY SAC. PART IV. IT IS RECOGNIZED THAT MANY FACTORS ARE KXXXXXX NOT KNOWN AT THIS TIME. HOWEVER, XXXXXXXX EARLY APPROVAL BY THE SECRETARY OF DEFENSE OF AIR FORCE CONCEPTS FOR THE DEVELOPMENT, OPERATIONS AND SUPPORT OF THESE SYSTEMS IS NECESSARY TO REALIZE THE MAXIMUM BENEFITS FROM THE PROPOSEDASSIGNMENT OF THESE SYSTEMS TO THE AIR FORCE.

UNQUOTE.

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PAGE 2 OF 2 PAGES

C O P Y

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RR RJWZBK
DE RJEZFF 12C
R 201555Z
FM COMARDC
TO CONAFBMD ARDC LOS ANGELES
BT

~~//CONFIDENTIAL//~~FROM RDRRB-20-10-1-E. QUOTED FOR YOUR INFORMATION IS THE FOLLOWING MEMO FOR THE CHIEF OF STAFF FROM THE SECRETARY OF THE AIR FORCE, DATED 13 OCT 59. QUOTE CLN REFERENCE IS MADE TO THE PROPOSED TRANSFER OF DISCOVERER, SAMOS, AND MIDAS WEAPON SYSTEM DEVELOPMENT AND OPERATIONAL PROGRAM RESPONSIBILITY TO THE AIR FORCE, AS WELL AS OTHER RESPONSIBILITIES WHICH WILL RESULT FROM OTHER SERVICE SPACE RESPONSIBILITIES. WITH RESPECT TO THESE PROGRAMS AND RESPONSIBILITIES, I WISH TO HAVE ALL ACTIONS ENCOMPASSED WITHIN THE FRAMEWORK OF THE AIR FORCE BALLISTIC MISSILES COMMITTEE IN THE SAME MANNER AS OUR BALLISTIC

PAGE TWO RJEZFF 12C

MISSILE PROGRAMS ARE NOW BEING HANDLED. IT MAY BE APPROPRIATE TO DESIGNATE AN AIR STAFF MEMBER AS THE SECRETARY OF THE AIR FORCE BALLISTIC MISSILE COMMITTEE FOR SPACE MATTERS. IT WOULD ALSO SEEM APPROPRIATE TO INCLUDE THE DEPUTY CHIEF OF STAFF, MATERIAL, AND DEPUTY CHIEF OF STAFF, DEVELOPMENT, AS MEMBERS OF THE AIR FORCE BALLISTIC MISSILE COMMITTEE. END QUOTE. THIS HQS IS TAKING FOLLOW UP ACTION WITH USAF TO ASCERTAIN IMPLEMENTING DETAILS AND PROCEDURES. YOU WILL BE ADVISED OF THESE RESULTS AT AN EARLY DATE.

bt
20 1559Z OCT RJEZFF

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COPY COPY

THE SECRETARY OF DEFENSE
WASHINGTON
NOV 17, 1959

MEMORANDUM FOR THE SECRETARY OF THE AIR FORCE

SUBJECT: Transfer of the SAMOS Development Program to the Department of the Air Force

REFERENCE: Memo for SecDef from SECAIR, 6 Nov 59, Subject as above.

In accordance with the request contained in the referenced memorandum, transfer of program responsibility for SAMOS from the Advanced Research Projects Agency to the Department of the Air Force is approved effective immediately.

It is understood that the program will be conducted essentially in accordance with current ARPA plans pending approval of an Air Force Development Plan to be submitted to theDirector of Defense Research and Engineering by 15 Janaury 1960. It is requested that the revised development plan emphasize physical recovery and provide the initial launch of a recoverable payload well in advance of the present schedule (early FY '62). It is further requested that additional steps beyond the current ARPA development plan toward the achievement of other objectives in the SAMOS program and that steps beyond the Research and Development phase be held in abeyance pending specific approval from my office.

It is also understood that theAir Force will submit to me by 15 January 1960, in accordance with the referenced memorandum, an operational plan for the SAMOS system including details of user relationships.

Separate action will be taken by ASD (Compt) to arrange for the necessary adjustments in the appropriate FY '60 and FY '61 funds.

/s/ Gates
DEPUTY

WDGEU-476-59
SAFS File

DS 59-3965

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PACIFIC MISSILE RANGE
U. S. NAVAL MISSILE CENTER
POINT MUGU, CALIFORNIA

313 2/bt
Ser 0178
12 February 1960

CONFIDENTIAL

From: Commander, Pacific Missile Range
To: Commander, Air Force Ballistic Missile Division, P.O. Box 262, Inglewood, California

Subj: Joint Tenancy Agreement Between the Pacific Missile Range and the Air Force Ballistic Missile Division

Encl: (1) Joint Tenancy Support Agreement for SAMOS Weapon System Facilities between the Commander, Pacific Missile Range, Point Mugu, California, and the Commander, Air Force Ballistic Missile Division (ARDC), Inglewood, California.
(2) COMAFBMD ltr WDT of 28 January 1960
(3) AFBMD Field Office Conf msg 152145Z/DEC 59
(4) COMPMR Conf Msg 170050Z/DEC 59

1. The Commander, Pacific Missile Range concurs that the enclosed messages, enclosures (3) and (4), modify the subject agreement in the areas of Security, Fire Protection and Pad Safety. Therefore, all distributed copies of enclosure (1) will have attached enclosures (2), (3) and (4).

2. Enclosures (1), (2), (3) and (4) are forwarded for your retention as provided for in paragraph 3 of enclosure (1).

3. This letter may be downgraded to Unclassified upon removal of enclosures (3) and (4).

M. H. TUTTLE
Deputy Commander

WDGEM Cont. No. 60-298

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JOINT TENANCY SUPPORT AGREEMENT
FOR SAMOS WEAPON SYSTEM FACILITIES
BETWEEN THE
COMMANDER, PACIFIC MISSILE RANGE
POINT MUGU, CALIFORNIA AND THE
COMMANDER, AIR FORCE BALLISTIC MISSILE DIVISION (ARDC)
INGLEWOOD, CALIFORNIA

1. INTRODUCTION: It is the purpose of this agreement, between the Commander, Pacific Missile Range, Point Mugu (PMR), California and the Commander, AirForce Ballistic Missile Division (ARDC) (AFBMD) Inglewood, California, to set forth conditions under which the cross-servicing, and/or common-servicing, will be accomplished, one for the other, at the Naval Missile Facility, Point Arguello for the SAMOS Weapon System facilities.

a. Definitions: As hereinafter used, the term "host activity" shall mean the Naval Missile Facility, Point Arguello (NMFPA) and the "tenant activity" shall mean the team(s) of Air Force personnel, civilian (contractor and/or civil service) or military, or any combination thereof, designated by the Air Force as being required at the NMFPA in support of the SAMOS program. The terms "common servicing" and "cross servicing" shall mean: common-servicing - that servicing performed by one department for one or more departments for which no charge is made to the other departments; cross-servicing - that servicing by one department for one or more departments for which the other departments are charged.

b. References: It is mutually agreed that the terms of this agreement are in consonance with Air Force Regulation 172-5/SECNAV Instruction No. 7100.4, AFM 172-1, DOD Directive 7000.1, AFM 177-1, and the agreement for Coordinated Peacetime Operation of the PMR as approved on 22 September 1959, by the Chief of Staff, USAF, and the Chief of Naval Operations.

2. TERMS OF AGREEMENT:

a. This support agreement will become effective after being executed by the Commander, PMR, Point Mugu, California, for the host activity, and the Commander, AFBMD (ARDC), Inglewood, California, for the tenant activity, and final review and signature by the Commandant, Eleventh Naval District (11ND), San Diego 30, California. None of the procedures or agreements set forth herein are intended to supersede any instruction from higher authority and any procedure or agreement herein which is now or may become invalid by instruction from jointly applicable higher authority shall be automatically modified to comply with said instruction, and immediate action to amend this agreement accordingly shall be initiated by either the host activity, or the tenant activity as the case may be.

b. It is mutually agreed that the terms of this support agreement shall remain in effect for an indefinite period or until terminated by mutual agreement of the host and tenant activities.

Enclosure (1)
WDGEM Cont No. 60-298

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c. It is agreed that all personnel of the tenant activity based at the host activity shall be under the management and technical control of the Air Force and further, that all personnel of the tenant activity are under the military control of the host activity through the senior military representative as designated by the tenant activity, and are subject to all rules and regulations promulgated by the host activity, except in the field of Air Force military and civilian personnel administration, USAF Regulations apply. The foregoing shall not be construed to pertain in any way to the control, operation or management of the technical programs, range safety functions excepted. Personnel of the tenant activity (civilian or military) shall not be required to stand watches, or be assigned extra duty.

d. The following policies and procedures are agreed upon:

(1) Fiscal Agreement: Reimbursements will be processed monthly in accordance with AFR 172-5/SECNAV Instruction 7100.4 dated 3 December 1956.

(a) The tenant activity will submit, on a quarterly basis, a Standard Form DD-1149 to cover reimbursement for those items designated as reimbursable (cross-servicing).

(b) A standard form 1080 identifying all charges for reimbursable items (cross-servicing) will be submitted monthly by the Commander, Pacific Missile Range to the tenant activity.

(c) Reimbursement by the tenant will be limited to the gross additional cost of providing the service less the value of resources provided by the tenant. Reimbursement by the tenant will be waived for any service furnished if the net additional monthly cost to the host department is less than one percent of the host installation's monthly cost for that service or less than $100 permonth.

(2) Real Estate: An exclusive use permit shall be consumated and affixed hereto as Attachment 1, pursuant to AFR 172-5/SECNAV Instruction 7100.4 and AFR 87-1 and shall define all such areas, including easement for communications cables specifying boundaries, location and access. Upon termination of Air Force program requirements for use of the facility, the status of the assets will be governed by the provisions of SECNAV Instruction 7100.4/AFR 172-5.

(3) Personnel Facilities and Services:

(a) No enlisted men's barracks or messing facilities are available at NMFPA, and no officers' quarters or messing facilities are available at NMFPA. The tenant activity will make its own arrangements for berthing and messing military personnel Civilians and military personnel employed by the tenant activity may use the food services provided for the civilian employees of the host activity. Cost of meals will be paid by the individual involved.

(b) No recreation facilities, chapel, library, or other similar services are available at NMFPA.

(c) Disbursing services for the tenant activity, including maintenance of pay records, will be the responsibility of the tenant activity.

(4) Medical and Dental: Emergency-type dental service will be provided by host. The only medical services provided shall be limited to emergency-type and stand-by services furnished by the host activity. These medical services will be available to military and civilian personnel. The medical services will be provided for military personnel on a common-servicing basis and for civilians on a cross-servicing basis in accordance with current instructions governing the host activity. As more definitive industrial health capability is available for the host, it will also be provided the tenant.

(5) Transportation:

(a) Passenger-type transportation required by the tenant activity will be furnished by the tenant activity; however, normal base transportation service (public type) will be made available to personnel of the tenant activity on the same basis as for personnel of the host activity.

(b) The tenant activity may request the host activity to provide "special purpose" vehicles or equipment on a temporary basis. The host activity will provide this service as secondary to the mission of the host activity, but with full consideration of the relative Department of Defense priority. Determination as to availability of "special purpose" vehicles or equipment at any particular time will be the prerogative of the host activity. Charges for equipment rental or manpower used to meet the requirement of the tenant activity will be on a cross-servicing basis.

(c) Maintenance and servicing of vehicular equipment furnished will be the responsiblity of the actitity furnishing the equipment.

(d) Fuel and oil required for vehicular equipment of the tenant activity is available and will be provided, as required, by the host activity at NMFPA on a cross-servicing basis. Standard Form 1080 will be submitted monthly to the tenant activity to cover charges for these services.

(6) Maintenance, Alteration and Contruction of Facilities:

(a) Any minor alterations, minor contruction, or routine maintnance and repair required by the tenant activity in order to utilize either land or buildings (or portions therof) assigned to the tenant activity will normally be accomplished and funded by the tenant. If minor alterations, minor contruction or routine maintenance or repair of facilities are requested of the host, the work will be accomplished upon submission of a standard work request form (NAVDOCKS Form 2351 (5-56) within the limitations of thehost activity. Standard Form DD 1149 will cite applicable funds to be used in accomplishing this work.

(b) All alterations and minor construction affecting any external utility shall be approved by the host activity prior to accomplishment.

(c) Major construction and alterations of facilities at NMFPA to be utilitized exclusively by the SAMOS Program will be funded by the Air Force. Design and constructions will be approved by the host actitity for conformance with the host master plan.

(7) Utilities:

(a) The host activity will furnish electrical power, water, fuel oils, and sewage disposal for the facilities of the tenant activity located on NMFPA on a cross-servicing basis. These utilities will be furnished at the rates established by the host activity with reimbursement computed in accordance with AFR 172-5/SECNAV Instruction 7100.4.

(b) Trash pickup will be provided to tenant activity on a cross-servicing basis. Janitorial service will be provided by the tenant.

(8) Range Support: Range Support will be requested in appropriate data and support requirements documents and will be in consonance with existing range operations directives and policies.

(9) Security and Fire Protection:

(a) The host activity will provide security measures as provided for comparable facilities of the host activity. The host activity will provide guards for complex security and traffic control as provided in DOD Directives designating NMFPA as a maximum security area. Tenant will control and administer access list to its facility.

(b) The host activity will furnish fire protection services for facilities of the tenant activity on a non-reimbursable basis. Specialized requirements for hazard handling services not foreseen herein will be negotiated by normal staff action.

(10) Communications:

(a) Administrative Telephone: The host activity will furnish local administrative telephone communication service to the tenant activity on a common-servicing basis for those facilities which are occupied by the tenant activity. The extent of the service provided will be that requested or as mutually agreed upon within the capability of the existing telephone central office equipment. Request for installation of telephones will be submitted in accordance with procedures established by the host activity. The use of the telephone system will be in accordance with rules and regulations promulgated by the host activity. Official or unofficial toll calls which must be processed outside of the local telephone system of the host activity will be reimbursed by the tenant activity in accordance with current instructions of the host activity.

(b) Operational Communications: Communications provided for the SAMOS facility by the Air Force will be controlled by the program director for operational commander. Maintenance and operation of the above communication system will be the responsibility of the tenant.

(11) Supply and Fiscal:

(a) Supply and fiscal services for the tenant activity will be the responsibility of the tenant activity. The tenant activity will provide janitorial services, office supplies, and office equipment such as typewriters, calculators, Etc.

(b) The tenant activity will provide its own collateral equipment such as desks, chairs, file cabinets, tables, etc., required to support the mission. The host activity will provide said collateral equipment for those facilities funded by the host activity and constructed for joint use by the host activity and/or tenant activities.

(c) Normal accumulation of scrap salvage, and waste material generated by the tenant activity will be sold or otherwise disposed of by the host activity without reimbursement to the tenant activity. Reportable property that becomes surplus to the tenant activity will be disposed of by the tenant activity.

(12) Public Information: Public release of any information pertaining to any phase of the SAMOS Program will be in accordance with current DOD Directives.

(13) Operational Control: The tenant shall exercise operational control over the facilities and real estate outlined in Attachment 1 hereto. The exclusive use of the facilities and real estate includes R & D, operational development and operational utilization by the SAMOS program and other such special programs as may be assigned to the Air Force. It will also include flight preparation of missiles, satellites, space vehicles and launching devices; launching and controlling the flight through impact of the missile or last stage burnout of the satellite or space vehicle and full control over all integral components of the weapon system including ground support equipment and communications. This control will be exercised in conformance with established range operations's test and safety procedures promulgated by the range.

3. CHANGES IN TERMS: This support agreement and any amendments thereto will be negotiated and executed by the Commander, PMR, Point Mugu, California for the host activity, and the Commander, AFBMD (ARDC), Inglewood, California for the tenant activity. This document will be approved: first, by the commander, PMR; second, by the Commandant, 11ND; and third, by the commander, AFBMD, who will return all signed copies of the document to the host activity. The Commander, PMR will forward signed copies of the document to all signatories of the agreement.

REVIEWD AND APPROVED:

Signed: J. M. MONROE
Commander
Pacific Missile Range
Point Mugu, California
(DATE) 6 December 1959

Signed: C. C. HARTMAN
Commandant
Eleventh Naval District
San Deigo 30, California
(DATE) 10 December 1959

Signed: O. J. RITLAND
Commander
Air Force Ballistic Missile
Division(ARDC)
(DATE) 28 January 1960

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HEADQUARTERS
AIR FORCE BALLISTIC MISSILE DIVISION (ARDC)
UNITED STATES AIR FORCE
Air Force Unit Post Office, Los Angeles 45, California

Reply to
Attn of: WDT 28 Jan 1960

Subject: Joint Tenancy Support Agreement Between the Pacific Missile Range and AFBMD

To: Commander
Pacific Missile Range
U. S. Naval Missile Center
Point Mugu, California

1. Reference:

a. AFBMD Field Office message December 152145Z.

b. COMPACMISRAN message December 170050Z.

2. The Commander, Air Force Ballistic Missile Division, has reviewed the attached Joint Tenancy document and concurs with the understanding that the signing of subject agreement will not abrogate or modify those areas of understanding which have been consummated with the Pacific Missile Range subsequent to the signing of the Joint Tenancy Agreement by the Commander, Pacific Missile Range. The above referenced messages represent a mutually acceptable position regarding Security, Fire Protection and Pad Safety.

/Signed/
O. J. RITLAND
MAJOR GENERAL, USAF
COMMANDER

1 Atch
Joint Tenancy Agreement

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Enclosure (2)

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AFBMD Field Office message December 152145Z to COMPACMISRAN

FROM WDGEV-2-12-45-C. REFERENCE CONFERENCE AT PT MUGU ON 9 DEC ON SAMOS SUPPORT, THE AIR FORCE POSITION RELATIVE TO OPERATION OF THE SAMOS PROGRAM AT PT ARGUELLO HAS BEEN ESTABLISHED IN CONJUNCTION WITH 1 MISDIV AS FOLLOWS: THE SAMOS PROGRAM IS ESSENTIALLY AN OPERATION DEVELOPMENT PROGRAM DESIGNED TO ACHIEVE A FULLY OPERATIONAL SAMOS WEAPONS SYSTEM AS SOON AS POSSIBLE.

THE INITIAL PHASE, INSOFAR AS THE LAUNCH OPERATIONS CONCERNED IS CONTRACTOR OPERATED TO ASSURE A PROPER MATING OF THE ORBITING VEHICLE TO THE BOOSTER TO ACHIEVE SUCCESSFUL ORBIT. SINCE THE BOOSTER IS A PROVEN ITEM AND MANY ASPECTS OF THE ORIBITING VEHICLE HAVE BEEN SEPARATELY EXERCISED IN THE DISCOVERER PROGRAM, THE PROBLEMS EXPECTED ARE MINIMUM AND THE OPERATIONAL DEVELOPMENT PHASE IS LIMITED IN SCOPE AND TIME AS COMPARED WITH OTHER WEAPON SYSTEMS AND THE LAUNCH FACILITIES PHASE RAPIDLY INTO OPERATION USAGE BY A MILITARY UNIT. NO OTHER USE FOR THESE FACILITIES IS CURRENTLY ENVISIONED SINCE THE PROGRAM HAS AN INDEFINITELY LONG LIFE IN THE OPERATION CONFIGURATION. THEREFORE, IN THE INTEREST OF ACHIEVING EARLY OPERATIONAL CAPABILITY WITH MINIMUM EXPENSE AND MAXIMUM UNIT INTEGRITY, IT IS IMPERATIVE THAT THE OPERATIONAL MODE BE INTRODUCED AS EARLY AS POSSIBLE TO EASE AND EXPEDITE TRANSITION FROM THE EARLY CONTRACTOR OPERATION TO THE LATER FULLY OPERATIONAL PHASE WITH A MILITARY CAPABILITY. THIS MEANS THEREFORE, THAT THE PROGRAM IS ORIENTED INITIALLY FOR MINIMUM IMPACT IN DETAILS OF DATA REQUIREMENTS AND FOR INDEPENDENT OPERATION FROM THE STANDPOINT OF RELIANCE ON EXTENSIVE EXTERNAL SUPPORT. IN SUMMARY THE ACTIVITY OF THE SAMOS PROGRAM AT ARGUELLO MUST BE VIEWED IN ITS PROPER WEAPONS SYSTEM CONTEXT WHICH INCLUDES NOT ONLY FACILITIES AND EQUIPMENT BUT TRAINED PEOPLE UNDER THE DIRECT CONTROL OF THE PROGRAM MANAGEMENT. SINCE THIS POSES A CONFLICT OF PHILOSOPHIES BETWEEN THE OPERATIONAL MODE AND THE RANGE CONCEPT OF MAXIMUM SUPPORT FROM CENTRALLY MANAGED CAPABILITY, THERE IS A MUTUAL PROBLEM TO CAREFULLY DEFINE AND MINIMIZE THE INTERFACE BETWEEN THE SAMOS PROGRAM ACTIVITY AT PT ARGUELLO AND OTHER R AND D ACTIVITIES AT ARGUELLO. PRECEDENT FOR A RECOGNIZED BOUNDARY BETWEEN PROGRAM MANAGEMENT AND RANGE MANAGEMENT HAS ALREADY BEEN ESTABLISHED AND APPROVED AT THE HIGHEST LEVEL ON THE BURKE-LEMAY AGREEMENT IN THE SENSE THAT RANGE CRITERIA APPLY FOR THE OPERATIONAL DEVELOPMENT PROGRAMS AT VANDENBERG BUT THE ACTUAL DISCHARGE OF THE FUNCTIONS IS LEFT WITHIN THE MANAGEMENT STRUCTURE RESPONSIBLE FOR THE OPERATIONAL DEVELOPMENT PROGRAMS. THIS SAME CONCEPT, WHEN APPLIED TO THE SAMOS FACILITIES AT ARGUELLO, DICTATES THAT THE AIR FORCE, AS SAMOS PROGRAM MANAGER, HAS THE FULL RIGHT TO MANAGE ALL ASPECTS OF THE SAMOS PROGRAM WITHIN THE ISLAND OF SAMOS FACILITIES AT ARGUELLO WITH THE SOLE PROVISION

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Enclosure (3)

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THAT THESE ACTIVITIES SHOULD NOT INFRINGE UNNECESSARILY ON OTHER ACTIVITIES IN THE AREA. ACCORDINGLY, THE AIR FORCE MAY THEN DETERMINE WHAT SUPPORT, IF ANY, IS REQUIRED, AND WHAT MANAGEMENT STRUCTURE AND MODE OF OPERATION IS NECESSARY TO ACHIEVE SAMOS PROGRAM OBJECTIVES, BUT MUST RECOGNIZE GENERAL PMR SAFETY CRITERIA. ACCORDINGLY, THERE IS NO QUESTION THAT THE GENERAL CRITERIA FOR SAFETY IN THE ARGUELLO AREA SHOULD APPLY EVEN TO THE ISLAND OF SAMOS LAUNCH FACILITIES. HOWEVER, THE ACTUAL IMPLEMENTATION OF THESE CRITERIA WITHIN THE BOUNDARY OF COMPLEX IS ONE THAT MUST BE, AT A FUTURE DATE, PERFORMED ENTIRELY BY THE OPERATIONAL ORGANIZATION IN ORDER TO ASSURE UNIT INTEGRITY ON VITAL FUNCTIONS IMPERATIVE TO THE OPERATIONAL CONCEPT. ACCORDINGLY, THE AF HAS PLANNED FOR SAFETY AS AN INTEGRAL PART OF THE UNIT, HAS ESTABLISHED SPECIFIC MILITARY SPACES FOR THIS PURPOSES, AND INTENDS TO IMPLEMENT THIS ELEMENT THROUGH USE OF FULLY QUALIFIED PERSONNEL OF THE OPERATIONAL UNIT IMMEDIATELY UPON COMMENCEMENT OF THE INITIAL OPERATIONAL DEVELOPMENT PROGRAM, TOGETHER WITH OTHER OPERATIONAL ASPECTS. IT IS RECOGNIZED THAT SUPPORTING FUNCTIONAL AREAS, IE, FIRE PROTECTION, MEDICAL AND PERSONNEL CONTROL ARE AN INTEGRAL PART OF THE TOTAL TEAM NECESSARY TO FULLY DISCHARGE THE SAFETY RESPONSIBILITY. IT IS FURTHER RECOGNIZED THAT ANY COMPETENT GROUP OF QUALIFIED PEOPLE IN THESE RESPECTIVE AREAS CAN DISCHARGE THESE INDIVIDUAL FUNCTIONS. HOWEVER, IT IS FUNDAMENTAL FROM THE STANDPOINT OF PROGRAM MANAGEMENT THAT THESE PERSONNEL BE UNDER THE DIRECT CONTROL OF THE WEAPON SYSTEM MANAGER TO ASSURE TIMELY AND SOUND OPERATIONAL DEVELOPMENT AND SUBSEQUENT UTILIZATION OF THE WEAPONS SYSTEM. THEREFORE THIS SUPPORT HAS BEEN PROGRAMMED AS AN INCREMENTAL EXPANSION OF THE PRESENT AF CMBT GP AT VAFB WHICH HAS BEEN PERFORMING AN IDENTICAL FUNCTION ON SIMILAR FACILITIES FOR OTHER OPERATIONAL DEVELOPMENT PROGRAMS, USING IN THE CASE OF THE 6 ATLAS PADS AT VANDENBERG, AN IDENTICAL BOOSTER. SECURITY AT THE PRESENT TIME TIME APPEARS TO BE AN INTERFACE AREA ASSOCIATED BASICALLY WITH THE PHYSICAL INTERFACE OF THE COMPLEX FENCE OF THE SAMOS PROGRAM. THE AF ACCEPTS FULL RESPONSIBILITY FOR CIRCULATION CONTROL INTO AND WITHIN THE SAMOS LAUNCH COMPLEX AND HAS PROGRAMMED FOR THE NECESSARY CIVILIAN GUARD PERSONNEL FOR THIS PURPOSE. IT IS NEVERTHELESS FOREORDAINED THAT AT A FUTURE DATE THE MILITARY OPERATION WILL REQUIRE THE USE OF COMBAT DEFENSE PERSONNEL WHEN THE FACILITIES ARE FULLY OPERATIONAL. THE CONCEPTS EXPRESSED ABOVE GIVE THE AF THE FULL RIGHT TO DETERMINE WHAT ACTIVITIES ARE REQUIRED IN THE ISLAND OF SAMOS LAUNCH FACILITIES AT ARGUELLO AND PMR INTEREST IN THESE FACILITIES, SINCE THEY WILL IN ALL CASES BE PECULIAR TO SAMOS AND DESTINED FOR OPERATIONAL

USE, SHOULD BE CONFINED TO THEIR MERE PHYSICAL INFLUENCE IF ANY, ON SURROUNDING ACTIVITIES, SUCH AS UNNECESSARY BLOCKAGE OF LINES OF SIGHT, ETC., RATHER THAN COMPATIBILITY WITH MASTER PLANS ON THE BASIS OF PROPOSED INDUSTRIAL AREAS OR OTHER NONOPERATIONAL CRITERIA. IF THESE CONCEPTS AND THIS OPERATION REQUIRE FURTHER DISCUSSION, RECOMMEND MEETING BE SCHEDULED FOR 1100, FRIDAY, 18 DEC AT PMR OR EARLIER IF CONVENIENT

WDGEM Cont. No. 60-298
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COMPACMISRAN message December 170050Z to AFBMD FIELD OFFICE, VAFB

PMR CONCURS GENERALLY IN CONCEPT OF YOUR 152145Z FOR SAMOS PROGRAM EXCEPT THAT RANGE USERS MUST ADHERE TO MASTER PLAN FOR NMF CMM PT ARGUELLO CMM IN ORDER TO AVOID DUPLICATION AND MISLOCATION OF FACILITIES X COMPMR WILL PROVIDE PAD SAFETY CRITERIA CMM REVIEW AND APPROVE PAD SAFETY PLANS AND WILL PROVIDE PAD SAFETY MONITOR TO ASSURE COMPLIANCE WITH CRITERIA X CONSIDER TERM "SAMOS ISLAND" SHOULD BE CHANGED TO "SAMOS WEAPON SYSTEMS FACILITIES AT PT ARGUELLO" IN ACCORDANCE WITH TERMS JOINT TENANCY AGREEMENT X IF YOU CONCUR IN ABOVE ASSUME NO BMD/PMR MEETING REQUIRED 18 DEC 1959 X IF FURTHER DISCUSSION DESIRED CMM PROPOSED MEETING AGREEABLE

COMPMR

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WDTT 66-70

Enclosure (4)

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WDGEM Cont. No. 60-298

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Reply to
Attn of: RDY

14 June 1960

SUBJECT: Revised SAMOS Development Plan

TO: AFBMD

1. The attached letter, subject: (U) Exploitation of Initial SAMOS data, dated 1 June 1960, from Headquarters USAF (AFDSD-AT) to ARDC, requires that this command submit revisions of the SAMOS Development Plan to the Air Force Ballistic Missile Committee. The contents of this letter were discussed with personnel of the Air Force Ballistic Mission Division and the Strategic Air Command during a visit to AFBMD by Colonel Ralph J. Nunziato and Colonel Norman C. Appold of this headquarters on 2-3 June 1960. The Air Force Ballistic Missile Division is directed to comply with the provisions of the letter for this command.

2. The presentation of the revised SAMOS Development Plan shall be given to the Air Force Ballistic Missile Committee on or about 15 July 1960. This same presentation shall be given to this headquarters prior to that date.

/s/
JAMES FERGUSON
Major General, USAF
Vice Commander

1 Atch
Ltr, subj: Exploitation
of Initial SAMOS Data,
dtd 1 Jun 60 (S)

CLASSIFICATION OF THIS DOCUMENT
WILL BE DOWN GRADED TO Unclassified
UPON REMOVAL OF ENCLOSURES.

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COPY

AFDSD-AT 1 June 1960

(U) Exploitation of Initial SAMOS Data

ARDC

INFO TO: CINCSAC ADC AMC AFBMD

1. By letter of 20 April 1960, the Dirdctor of Defense, Research and Engineering approved in principle the Researbh and Development Plans for DISCOVERER, SAMOS AND MIDAS, dated 15 January 1960. Separate correspondence as to specific changes and funds pertaining to this approval is being prepared; however, questions of operational command, operational facilities and user relationships for the SAMOS reconnaissance satellite continue to be matters of considerable discussion.

2. The Under Secretary of the Air Force directed on 27 May 1960 that the R&D exploitation and operational plans for SAMOS be re-evaluated. The Under Secretary stated that there is considerable technical uncertainty as to the character and quality of the information that may be obtained by the different payloads of this system and that the operational interest and the character of the initial operational programs will be strongly conditioned by the results of the R&D program. He noted that a very elaborate plan had been originally conceived for the operational control, data handling, data utilization, data volume, and data displya elements of the SAMOS and MIDAS operational systems, but that approval of such a plan with authorization for expenditure of funds has not been fotthcoming. This delay has concurred because of concern that the assumptions on such items as technical capabilities, schedules, data quality, frequency of coverage, payload reliability and lifetime, computer requirements, optimum camera types, etc., are open to considerable question and can affect in a major way the type of operational system that will ultimately be required. If, as a result of the R&D experimental flight program, recovery rather than readout turns out to be the best primary means for satisfying the bulk of the operational requirements, then the ground complex required for handling such data will be enormously simpler than if complete reliance is placed on readout to meet these requirements.

3. It is directed that a revised SAMOS Development Plan be prepared and submitted as soon as possible within the ground rules specified below. Deviations for valid reasons will be considred and may be presented as alternate plans.

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a. In order to have parallel R&D tests of readout and recovery systems, re-examine all applicable camera equipment, both on the shelf and in development, and make recommendations for the introduction of an additional recoverable payload development program with associated schedules and cost.

b. Endeavor to achieve the earliest flight dates for the different payloads with priorities in this order: photographic recovery, photographic readout, ferret. Consideration is to be given to possible delaying elements and added insurance against such delays.

c. Make provision for the minimum essential capability to handle in a reasonable fashion any operational take from the R&D flights:

(1) Include facility details, schedules, costs, manpower, and subsystem descriptions.

(2) Initial readout is limited to two sites.

(3) No wide-band data links authorized except Vandenberg-Sunnyvale.

(4) No provision is to be made for alternate satellite control centers: control to be exercised originally from Sunnyvale center.

(5) Capability will be limited to that required to handle one operating readout satellite at a time.

(6) System should be planned to permit growth capacity if R&D program results are promising and decision is made later to use readout primarily.

(7) Processign capability should be adequate for recovered as well as readout data.

(8) Personnel staffing and training should be geared to the modified program . The present activities in this regard appear to be completely out of scale and out of phase time-wise.

(9) Provision will be made only for essential elements of subsystem I. Complexity and computer requirements introduced into this subsystem as a result of ferret payloads should be carefully reassessed. The very limited value of possible data from F-1 and F-2 militates against sophisticated data handling system. Subsystem I appears to have been greatly over-engineered, at least for the ferrent aspects of the program.

(10) Computer programming problems, schedules and computer rerequirements for photographic readout payloads will be re-evaluated to determine whether it is reasonable to anticipate extensive pre-determined selective area coverage on request by intelligence in the R&D flights now scheduled. The interim facility requirements should be planned accordingly.

d. Determine the effects of the above on MIDAS and prepare necessary revisons to the MIDAS plans.

4. The proposed SAMOS interim operational capability should be located in the area where it is desired to establish the final operational facility and control center, if appropriate, or can consist of an augmentation to the R&D capability with Air Force personnel rather than contractor personnel responsible for the operation. The plan for this capability must include recommendations for its location with justification for the choice. The current plan is to use a very small portion of the old Martin bomber plant in Omaha with overlapping control systems for MIDAS and SAMOS. The Under Secretary questions the desirability of this plan and reports that CINCNORAD believes this is unacceptable and that MIDAS control, readout, display, etc., must be integrated in a common location with other defense subsystem elements such as thosd related to BMEWS. Therefore, questions of the following types must be considered in making a new plan for the interim operational capability:

a. Should the Air Force plan ultimately to establish the complete operational data handling, display and control elements of SAMOS and MIDAS at the old Martin Bomber Plant?

b. If not, or if there is serious question as to such desirability, is it sound to reactivate a minute area of this large plant for the interim operational equipment?

c. Should the entire complex be considered as basically a "peacetime" operation with survivability of all or part of the equipment of little importance.

d. Is it necessary or desriable to co-locate data handling and processing facilities with future control centers and should the SAMOS and MIDAS control centers be integrated?

5. Request this headquarters be notified of the earliest possibledate that the requested plans can be formally submitted for appropraite beiefings and presented to the Air Force Ballistic Missile Committee. ARDC is to act as team captain for the preparation of these plans with other commands participating as necessary. Further guidance will be provided by this headquarters on the questions in paragraph 4.

ROSCOE C. WILSON
L. General, USAF
Deputy Chief of Staff, Development

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C O P Y

SECRETARY OF DEFENSE

16 June 1960

MEMORANDUM FOR SECRETARIES OF THE ARMY, NAVY AND THE AIR FORCE

SUBJECT: Coordination of Satellite and Space Vehicle Operations (U)

Reference is made to the Secretary of Defense's memorandum of September 18, 1959, subject as above.

The decisions set down in the referenced memorandum are re-affirmed. Additionally, it is desired to emphasize the establishment of a joint military organization for control over operational space systems does not appear necessary or desirable at this time.

With specific reference to the first full paragraph on page 3 of the September 18, 1959, memorandum, the appropriate Military Department will include in its detailed plans for a particular system not only the user relationships with unified and specified commands and other appropriate agencies, but also, where applicable, provision for the exercise of appropriate operational authority by the unified and specified commanders responsible for the functional areas concerned.

S/Gates

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~~SECRET~~ USIB-D-33.6/8
(FINAL - USIB APPROVED)
5 July 1960

INTELLIGENCE REQUIREMENTS FOR SATELLITE RECONNAISSANCE SYSTEMS OF WHICH SAMOS IS AN EXAMPLE

1. The United States has, and will continue to have for the foreseeable future, a high priority requirement for photographic and electronic reconnaissance of the Soviet Union and other denied areas. In theory, it is feasible to conduct a large amount of this reconnaissance in a number of different ways, but this feasibility will be affected from time to time by technical and political considerations that might make it difficult or impossible to use all of the theoretically feasible means. Although a satellite reconnaissance system has not yet been operationally demonstrated and is not likely in the near term to produce the quality of information that can be obtained by other systems, on balance, it should be able to perform a number of reconnaissance tasks better than other systems and should be able to produce useful information on the great majority of intelligence questions against which reconnaissance systems might be employed. A satellite reconnaissance system might also be less affected by some of the political considerations affecting other reconnaissance systems. The U. S. Intelligence Board considers it essential, therefore, that the United States develop and maintain an operational satellite reconnaissance system with a wide range of capabilities.

2. The intelligence situation facing the United States will continue to be highly dynamic, influenced both by changes in Soviet capabilities and

SAFSP-P 30

our own intelligence assets, making it impossible to specify at any one time the precise nature of the satellite reconnaissance system that will be required in the distant future. As stated in paragraph 1 above, however, we are sure that there will exist an urgent requirement for a satellite reconnaissance system throughout the foreseeable future.

3. The photographic system must be capable of obtaining coverage of denied areas at object resolutions of approximately 20 feet, 5 feet, and ultimately 1 foot on a side. However, the 100 feet on a side programmed for R&D design objectives will be utilized and exploited for intelligence purposes to the maximum extent possible. (See Annex "A" for examples of objects that can be identified at these resolutions.) The system must provide for repeat coverage of targets at these various resolutions, depending on the nature of the target and the intelligence problem involved. The periodicity of this repeat coverage will also depend on the nature of the target and the intelligence situation, as well as on other sources that can be brought to bear on it. The anticipated frequency can be predicted more precisely as the intelligence situation develops.

4. It is essential that the U. S. have access to information derived from electronic emissions inside of denied areas that, in the present state of the art, can be collected only by electronic reconnaissance over those denied areas. A satellite electronic reconnaissance vehicle is likely to be of great value in this reconnaissance. It is essential that such an electronic reconnaissance vehicle have a wide range of capabilities in order that it may fulfill the requirements expressed in the

[redacted] that are appropriate to collection by a satellite. The characteristics required of these vehicles are described in Annex "B". Unfortunately, however, in the present state of the art electronic art, these capabilities are likely to be obtained only after a considerable R&D effort. We feel that the information derived from photographic reconnaissance is now, and is likely to be, of greater value and priority than that obtained by any foreseeable electronic reconnaissance system. Even in these circumstances, however, we feel that the information likely to be obtained by electronic reconnaissance would be of such value that the R&D effort to achieve this capability should be carried forward with the highest priority short of interfering with the photographic tasks outlined elsewhere in this paper. In the absence of a fully developed electronic reconnaissance system, and in view of the uncertainties as to what can be collected with interim systems, we are reluctant to specify detailed requirements for the short term that might cause serious disruptions in the R&D effort leading toward the fully developed system. There are important problems, however, toward which electronic reconnaissance could contribute critical information during the R&D phase without serious disruption to that effort. One of the most important of these is the search for emissions associated with an Anti-Ballistic Missile system. These problems are outlined in greater detail in Appendix I to Annex "B". It is probable that from time to time the intelligence situation will require that additional tasks be levied on the satellite electronic reconnaissance system during the R&D phase. These will be communicated to the proper authorities as they arise.

5. In order for the system to move in a realistic direction and provide the maximum amount of intelligence to the country, it is essential that the R&D phase of the system be guided by and devoted to the intelligence tasks outlined below and to such additional high priority intelligence tasks as may arise from time to time. The intelligence community will review these requirements at frequent intervals as the intelligence situation develops in order that new tasks may be identified and brought to the attention of the R&D authorities at the earliest possible time.

6. At the present time, the U. S. intelligence community maintains a [redacted] which identifies those specific targets in the Soviet Union against which photographic reconnaissance should be employed. [redacted] concerned with Soviet offensive capabilities including installations associated with the Soviet Long Range Bomber program, the Soviet Guided Missile program, the Soviet Navy especially with regard to nuclear-propelled and guided missile configured vessels and Soviet Tank, Motorized and Artillery Forces. Other targets [redacted] are concerned with the capabilities and strategic positioning of Soviet military forces, Soviet capabilities for defense against air and missile attack, and the Soviet power base in the form of atomic energy installations and industrial complexes. The [redacted] is broken down into various categories of priority interest.

At the present time, approximately 35 objectives are considered to be of the highest priority interest. Approximately 500 objectives are of high priority interest and approximately 3,000 additional objectives are of priority interest. In addition to these specific objectives, information is required on areas that have been inaccessible to other collection systems. It is anticipated that reconnaissance of these areas may reveal the existence of important installations previously unknown.

7. The specific composition of the [redacted] will change from time to time as new information is acquired from all sources and as the important intelligence problems facing the United States change. It is anticipated, however, that at any given time within the foreseeable future, our requirements for photographic reconnaissance will approximate the [redacted] in size and variety. Complete and simultaneous coverage of the Soviet Union would not eliminate [redacted] even if it were possible to achieve, because the elements of power in the Soviet Union are dynamic and new developments and additions are occurring constantly. Repeat coverage of many of the target areas in the Soviet Union will remain a requirement, therefore, although the number and periodicity of this repeat coverage will vary, depending on the nature of the target and the intelligence situation existing at the time. From an ideal point of intelligence utility, many of the high priority and highest priority targets should be covered at intervals on the order of 1 to 6 months, but the reconnaissance system should have

sufficient flexibility to permit the coverage to be timed to meet the needs of the specific intelligence situation as it develops.

8. The information obtained by the satellite reconnaissance system would be of maximum use in providing strategic intelligence information. In addition to this primary mission, it should provide important by-products in the form of information bearing on indications of Soviet intentions.

9. At the present time, the U. S. Intelligence Board is faced with several outstanding problems which should be considered on a priority basis for system development and employment of the photographic satellite vehicles during the 1961-1962 time period as follows:

a. Our first and most urgent priority requirement is for a photographic reconnaissance system capable of locating suspect ICBM launch sites. It is estimated that many sites for the launching of operational Soviet ICBM's will be completed between now and the end of 1962. It is our strong belief that our best and possibly our only chance to detect these sites will be during the construction phase; once these sites are completed, we will have considerably less opportunity to detect them. It is important, therefore, that a maximum effort be made to find the Soviet operational ICBM launch sites before the end of 1962. Once any ICBM site is located, a satellite reconnaissance system with adequate ground resolution should be able to maintain surveillance and report changes in its status, but if these sites are not located before the end of the construction phase almost any reconnaissance system would be of considerably less value against such a target. We believe that if we are to find the Soviet operational ICBM launch sites, our highest priority effort should be directed to a general search of a substantial portion of that part of the USSR covered by the rail net. Photographic resolution to accomplish this search mission would need to approach 20 feet on a side. Repetition of this general search at the rate of approximately once each month initially would give us a relatively high degree of assurance of providing the information required. Read-out of the photography on this frequency would establish trends and priorities for the programming of subsequent search missions. It is expected that the photography will also be used to supplement that obtained by other means for the improvement of mapping and more precise location of targets in the Soviet Union in response to the [redacted]

b. If suspicious locations are identified which might be possible ICBM launch sites, these locations will be added to the highest priority category of the [redacted] Our second priority requirement, therefore, is for photographic coverage of the highest priority target category in the USSR, with a photographic system of sufficient resolution to supply us with descriptive information on those targets. It is believed that resolution approaching 5 feet on a side is necessary for this requirement. There should be a capability to launch and/or control these missions on-call at short notice to meet the needs of the intelligence situation as it develops.

c. Our third priority requirement is for a photographic system of sufficient resolution to supply us with the technical characteristics of the highest priority targets before the end of 1962. This will require a resolution of better than 5 feet on a side.

d. If technological development barriers preclude the design objectives for resolutions described above, the USIB will designate resolutions which are acceptable from an intelligence standpoint.

2 Atchs
1. Photo (Annex "A")
2. ELINT/COMINT (Annex "B")

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USIB-D-33.6/8
(FINAL-USIB APPROVED)
5 July 1960
Annex "A"

EXAMPLES OF INTELLIGENCE TARGETS THAT MIGHT BE IDENTIFIED AT VARIOUS RESOLUTIONS

1. The following categories, although not intended to be definitive or comprehensive, are presented for the purpose of giving some idea of object size in the intelligence spectrum which might be identified at the limiting resolutions indicated. This evaluation is considered valid provided the targets are not concealed by deception or camouflage.

a. Photography with a ground resolution of objects 100 feet on a side should provide information for identification and location of cities, forests, large bodies of water, changes in rail alignments and transportation patterns, industrial complexes, CBR and nuclear R&D test facilities, major military complexes, possibly including large missile sites or related electronic facilities and patterns, air bases and large Naval and port facilities. Indications of industrial growth should be detected. Large ships (300 feet in length or more) should be detected at anchor or at sea and naval formations at sea identified. The extent of complexes, installations and sea formations should be approximately measured and some locational and topographic information should be available.

b. Photography with a ground resolution of objects 20 feet on a side should provide all the information available from that with a ground resolution of 100 feet on a side, plus intelligence information concerning

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components of installations or complexes. Some air base runways, submarine bases, drydocks, piers and supporting facilities, ground forces barracks areas, equipment parks, and training centers, major or isolated surface-to-air missile sites, atomic energy installations, ballistic missile sites, and industrial installations should be detected, located, identified by type and approximately measured. Large vessels including surfaced submarines, large aircraft and missile launch pads, should be counted. Military support facilities should be identified by type. The identification and disposition of major Soviet naval forces should be determined.

c. Photography with a ground resolution of objects 10 feet on a side should provide a capability to identify large aircraft and known missile carrying submarine and ship types, determine base utilization, locate special weapons and CBR facilities, limited map and chart revision could be accomplished, and analyze base support facilities. A general functional analysis of industrial, military and transportation facilities should be completed. Above ground ICBM and IRBM facilities such as launch pads, stands and some support equipment should be accurately measured. The capacity of military storage facilities, the general level of military activity, military transportation capabilities and indications of security should be determined. Naval ships and units should be identified by type.

d. Photography with a ground resolution of objects 5 feet on a side should provide relatively detailed intelligence information concerning most military and industrial installations. All aircraft, except model improvements, ground forces disposition and equipment to include tanks and artillery, some large missiles, early warning sites, AAA sites, atomic energy materials production, except weapons, structural shipboard configurations for missile handling, and special weapons storage, loading and handling should be identified, measured and analyzed. A level of military activity and type of training should be discernible.

e. Photography with a ground resolution of objects 1 foot on a side should provide detailed technical intelligence concerning air, naval or ground force equipment and industrial production processes.

REQUIREMENTS FOR ELINT/COMINT CAPABILITY

1. GENERAL

a. The ELINT/COMINT reconnaissance system must provide the ability to intercept electromagnetic emissions from the Sino-Soviet Bloc, to return the intercepted information in a secure manner to appropriate locations, and to record against an accurate time base this information in a form suitable for other processing.

b. Development of electronic reconnaissance satellites will involve maximum equipment progression, utilising state-of-the-art equipment without inhibitions of past techniques and custom in intercept, recording and processing. The most advanced equipment possible must be employed as early in the program as is permissible within operational considerations and equipment availability. No individual vehicle will necessarily have all of the characteristics and capabilities required for the sub-system as a whole.

c. As SAMOS reaches the operational stage, intelligence information received from the project or other sources may indicate the need for additional types of directed intercept systems capable of receiving, recognizing and recording specific types of signals. As more is learned of the technical capabilities of the system, operational requirements will be revised. Provisions should be made to procure

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such equipment as might be required by Quick Reaction Capabilities. A close working relationship between the R&D organization and the intelligence community is required.

d. The ELINT targets for the system will be drawn from the [redacted] and the COMINT targets from the [redacted] It is not intended that collection by satellites will replace other means of ELINT/COMINT collection. It is important that the effort be concentrated on obtaining signals inaccessible by other means of collection.

e. Facilities should be provided to allow programming of the collection systems from the ground for specific targets, by changing the system directivity, radio frequency and bandwidth vs time.

f. The read-out and data processing capability for intercepted signals must be as effective as the capability for collection so as to provide a means of rapid processing and dissemination of the products to producers and users. Every effort should be made to insure that any machineable output of the system be in a form compatible with the input capabilities of the users.

g. The objective is to have an operational system as soon as possible. However, during the R&D phase, flights are required for R&D purposes, during which time it is recognized that intelligence priorities may be of a secondary consideration.

2. OPERATIONAL CHARACTERISTICS: The following characteristics represent the ultimate in the system. Appendix "I" to this Annex which shows the specific requirements for selected priority targets demonstrates that not all of the operational characteristics given below are needed for each requirement.

a. The system should provide receiving and recording equipment capable of intercepting land based, shipborne and airborne electronic emissions between [redacted] and at lower and higher frequencies, if propagation will permit. Equipments covering specific bands within this range should be in easily substituted modular form.

b. The receiving and recording equipment should be of high sensitivity, low noise, high fidelity and most modern design in keeping with the latest developments within the state-of-the-art.

c. Receivers covering specific RF bands should be capable of receiving, recognizing, and providing outputs for the recording of all known types of modulation within their specified bands.

d. The system should be capable of recognizing and recording new and unusual signals. The original modulation of intercepted signals should be preserved to the greatest degree possible.

e. The system should incorporate a direction finding capability that will permit location of electronic emitters within a five mile CEP; however, achieving this capability should not preclude attaining a high order technical collection capability within the system.

f. If feasible, receiver outputs are required that will allow determination of scan rate and polarization of intercepted signals.

g. The system should be capable of storing and discriminating between intercepted data from several orbits, at least until readout has been accomplished.

h. The system should also provide calibration data to the ground-space communications and to the data processing sub-systems adequate for the production of the most reliable intelligence information.

3. GENERAL TECHNICAL CHARACTERISTICS:

a. The receiver dynamic range requirements should be maximized to preserve pulse amplitude modulations that occur in telemetry, missile guidance, etc.

b. Receiver sensitivities should be a maximum consistent with intercept requirement. RF accuracy should be the best attainable.

c. Rapid automatic spectrum coverage is required with a high probability of intercept.

d. Image and spurious response interference should be a minimum.

e. The system should be capable of determining the synchronization of several different signals simultaneously.

4. SPECIFIC ELINT COLLECTION: The foregoing characteristics represent the ultimate in the system as we now see it. Specific requirements will change during the development phase and will be subject to

continuing revision by the Intelligence Community in accordance with the priorities established by the [redacted]. Examples of targets of current importance and considered to be obtainable by the system are listed in Appendix "I", Section A. The technical parameters desired and the accuracies needed are added. Section B lists examples of specific targets which will become progressively attainable with development of the system. These will be moved to Section A when appropriate.

5. COMINT COLLECTION:

a. COMINT requirements for SAMOS are of lower priority than the ELINT requirements. Development of COMINT collection devices will be dependent upon empirical data acquired by the ELINT system.

b. The frequency spectrum of interest ranges from [redacted].

c. The estimated radiated power of the transmitters to be intercepted is tabulated below:

FREQUENCY	MINIMUM POWER	SIGNAL BANDWIDTH
HF	1.0 watts	[redacted]
VHF	10 watts	[redacted]
UHF	3 watts	[redacted]

d. The recorder will provide for storage of video signals and will have a bandwidth capability of one megacycle.

e. The minimum sub-system (antenna, receiver, recording and playback) signal to noise ratio should be of the order of ten decibels.

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Appendix I

5 July 1960
Appendix I

SPECIFIC ELINT REQUIREMENTS FOR SAMOS

SECTION A

TYPE	FREQ.	DESIRED ACCURACIES
ABM Radar	[redacted]	RF 1% - PRF 1% - PW 5% and scan rate 5% DF 25 nm CEP
Missile Telemetry (against VTMTR)	[redacted]	Analog Recording 1 mc DF 25 nm CEP
Earth to Satellite TX and Command TX	[redacted]	RF 1% - PRF 5% - scan rate 5% DF 25 nm CEP

SECTION B

GCI Radar	[redacted]	See SPECOR or superseding document.
HF Radar	[redacted]	"
EW Radar	[redacted]	"
GCA Radar	[redacted]	"
SHORAN	[redacted]	"
Shell Tracker	[redacted]	"
Tactical AAA	[redacted]	"
Tactical Acquisition	[redacted]	"
Beacon Interrogator and Tracking Radars	[redacted]	"
SAM Radars	[redacted]	"
AAA	[redacted]	"
SAM	[redacted]	"
AAA Acq.	[redacted]	"
Eq operating outside normal freq bands	[redacted]	" " "

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20 Jul 60

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FM HQ USAF WASH DC
TO RJEZFF/CMDR ARDC ANDREWS AFB MD
INFO RJWZBK/COMDR AFBMD LOSA CALIF
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~~/S E C R E T~~/FROM AFDSD-AT 70836, ARDC FOR RDRB, AFBMD FOR WDZY, THIS MSG IN FOUR PARTS.

PART I. THE 12 JULY 60 SAMOS DEVELOPMENT PLAN WAS APPROVED FOR PRESENTATION TO DDR&E, WITH CHANGE TO REQUIRE TOTAL OF TWO NEW ATLAS LAUNCH PADS WITH BLOCKHOUSE ADJACENT TO COMPLEX 1 AT PT ARGUELLO.

PART II. FOLLOWING PLANNING GUIDANCE FROM SAFUS IS BASED ON SUBSEQUENT DISCUSSIONS WITH OSD AND OTHERS: (A) DO NOT PLAN FOR THOR/SERGEANT LAUNCHES; (B) ANTICIPATE IMMEDIATE APPROVAL OF NEW TRIPLE PAD ATLAS COMPLEX AND PLAN FOR USE OF ATLAS/AGENA FOR NEW RECOVERY PAYLOADS; (C) NEW RECOVERY PAYLOAD PROGRAM MUST BE TRULY

ADVANCED SYSTEM FOR SYSTEMS OF HIGHEST RESOLUTION THAT STATE OF THE ART WILL ALLOW AND SHOULD INCLUDE ASSOCIATED ATTITUDE STABILIZATION SYSTEM AND APPROPRIATE RECOVERY SYSTEM; (D) CONSIDER EARLIEST FLIGHTS OF THE NEW SYSTEM IN LIEU OF F-2 AND E-2 WHERE NECESSARY TO MEET USIB REQUIREMENTS; (E) PLAN FOR THOR/AGENA AND TITAL LAUNCHES TO THE EXTENT THAT THEY CAN BE USED FOR COMPONENT TEST FLIGHTS OR OTHERWISE; (F) EXAMINE AMR LAUNCH POSSIBILITIES FOR APPLICATION TO REVISED PROGRAM.

PART III. PENDING APPROVAL OF THE REVISED DEVELOPMENT PLAN BY DDR&E, ARDC IS DIRECTED TO TAKE THE NECESSARY ACTION TO PROTECT THE SCHEDULES TO ASSURE EARLIEST AVAILABILITY OF THE NEW PAYLOADS INCLUDING INITIATION OF PAYLOAD PROGRAM SOURCE SELECTION ACTIONS. ARDC IS ALSO DIRECTED TO STUDY THE IMPACT OF THE PROGRAM REVISIONS ON BOOSTER PRODUCTION SCHEDULES AND PRESENT THE RESULTS TO THE AFBMC AS SOON AS PRATICABLE.

PART IV. THE POINT ARGUELLO COMPLEX WILL BE THE SUBJECT OF SEPARATE ACTION FROM AFOCE.

BT
20/1559Z JUL RJEZHQ

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SAFSRD-30

18

RCC: 115.1
DATE: August 11, 1960

SECRETARY OF THE AIR FORCE

ORDER

SUBJECT: The Director of the SAMOS Project

1. Effective this date, Brigadier General Robert E. Greer, Assistant Chief of Staff for Guided Missiles, is designated as Director of the SAMOS Project, with additional duty as Vice Commander for Satellite Systems, AFBMD, ARDC, with duty station at 2400 East El Segundo Boulevard, El Segundo, California.

2. The Director will organize an office to manage the SAMOS Project. Manpower to staff the office will be drawn from manpower available to him as Vice Commander for Satellite Systems. The SAMOS Project Office will be a field extension of the Office of the Secretary of the Air Force.

3. The Director is responsible to and will report directly to the Secretary of the Air Force.

4. Additional duties may be assigned to the Director as deemed appropriate by the Secretary of the Air Force.

/s/

DUDLEY C. SHARP
Secretary of the Air Force

COPY

Department of the Air Force

NO: 115.1
DATE: August 31,1960

SECRETARY OF THE AIR FORCE

ORDER

SUBJECT: Organization and Functions of the Office of Missile and Satellite Systems

1. There is hereby established the office of Missile and Satellite Systems in the Office of the Secretary of the Air Force.

2. The Director of the Office of Missile and Satellite Systems is primarily responsible for assisting the Secretary in discharging his responsibility for the direction, supervision and control of the SAMOS Project. He is responsible for maintaining liaison with the Office, Secretary of Defense and other interested Governmental agencies on matters relative to his assigned responsibilities. He may be assigned additional duties as deemed appropriate by the Secretary of the Air Force.

3. The Director will provide the Secretariat for the Air Force Ballistic Missile Committee.

/S/

DUDLEY C. SHARP
Secretary of the Air Force

COPY

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C O P Y

AFDDC 31 Aug 60

Subject: Development Assumption of AFCCM Functions

To: General White

1. With the iminent dissolution of CCM, occasioned by the SAMOS reorganization, we are now prepared to take on the remaining CCM functions as briefed to you previously on 10 May 1960 in connection with the reorganization of DCS/Development. These functions are listed in enclosure 1.

2. The establishment of the SAMOS organization creates an additional problem within my staff occasioned by the immediate loss of Brig. General Curtin and Colonel Martin who are my two key officers in Advance Technology. These officers must be replaced immediately in order to avoid serious loss of effectiveness in my operations. Additionally, there is an existing shortage of three officers and three spaces outstanding for the work load associated with the assumption of CCM functions.

3. In light of the above and concurrent with your action on Dr. Charyk's letter to you regarding the establishment of the new SAMOS office, it is requested that you: (a) confirm the transfer of CCM functions listed in enclosure 1 as previously agreed and (b) transfer the following individuals and spaces from CCM to DCS/Development.

Brig. General M. B. Adams vice Brig. General R. D. Curtin (SAMOS transfer)
Colonel H. W. Gainer vice Colonel J. L. Martin (SAMOS transfer)

Lt. Colonel P. L. Deimling
Lt. Colonel J. R. Smith
Lt. Colonel G. T. Grottle

4. The above matter has been discussed in detail with Dr. Charyk as of this date and he is agreeable with the details of this proposal.

/S/

ROSCOE C. WILSON
Lt. Colonel, USAF
Deputy Chief of Staff,
Development

C O P Y

COPY

Proposed Functions of CCM
To Be Transferred to DCS/Development

1. Serves as central agency to coordinate, correlate, and monitor Air Staff actions on the development of weapon/support systems.

2. Maintain current status information on development of weapon/support systems and provides this information to other agencies as appropriate.

3. Reports, briefs, and analyzes all range launches and tests for which the Air Force is responsible.

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COPY

31 Aug 60

OFFICE OF THE SECRETARY

MEMORANDUM FOR THE CHIEF OF STAFF

1. In implementation of SAFO 115.1, it is requested that orders be issued assigning Brigadier General Richard D. Curtin as Director of the Office of Missile and Satellite Systems. Personnel listed in the attachment should be assigned coincident with General Curtin's assignment.

2. Necessary adjustment to the authorized manning of OSAF will be made to accomodate the transfer of the personnel indicated.

3. Physical office space should be in the area presently occupied by the Assistant Chief of Staff for Guided Missiles, if feasible.

s/DUDLEY C. SHARP

1 Incl:
  Attach.

COPY

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PERSONNEL PRESENTLY ASSIGNED TO DEPUTY CHIEF OF STAFF, DEVELOPMENT

Brigadier General Richard D. Curtin
Colonel John L. Martin, Jr.
Major Henry C. Howard - later
Major Jack NMI Sides - later
Major Clifton E. James

PERSONNEL PRESENTLY ASSIGNED TO OFFICE OF ASSISTANT CHIEF OF STAFF FOR GUIDED MISSILES

Miss M. S. Enright
Mrs. E. L. Luckman
Major R. A. Van Mater
CWO W. DeHaro
T/Sgt W. B. McArthur, Jr.
A/1c A. Roach

Colonel T. H. Runyon
Miss C. Principe
S/Sgt J. L. Hester
A/1c J. D. Kirkpatrick

Colonel H. Dorfman
Miss H. StLedger
Lt Colonel E. J. Letvan
Miss C. L. Watson

Lt Colonel T. J. Herron
Mrs. M. L. Graham

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~~SECRET~~

12 Sep 60

MEMORANDUM FOR THE CHIEF OF STAFF, USAF

As a result of recent review of the SAMOS Project at the highest national level, changes have been made in the character and scope of the technical program. It has been directed by the National Security Council and the Secretary of the Defense that specific management procedures be established in accordance with the national importance of this program.

Accordingly, I have established:

A. A Director of the SAMOS Project at AFBMD as a field extension of my office, responsible to and reporting directly to me, and

B. An Office of Missile and Satellite Systems (SAFMS) within my staff, to assist me in the discharge of my responsibilities.

The functional relationship between the above offices is outlined in the attachments hereto, along with a description of the organization and functions of the Office of Missile and Satellite Systems and the charters of an Advisory Council and a Technical Advisory Group on Satellite Reconnaissance.

Effective immediately, the satellite reconnaissance program will be managed within the above structure. There will be no review of approval channels between the Director of the SAMOS Project and the Secretary of the Air Force. However, in order to maintain general project knowledge within those command and staff offices where such knowledge is necessary for program support or coordination of related matters, need-to-know briefings will be given by the program management staff. These briefings will be given on a periodic basis, without request, and not as a part of Project management actions. All requests for briefings will be directed to the Secretary of the Air Force, and will be approved only on a strict need-to-know basis.

The national urgency requires the utmost support with immediate response and overriding priority from all elements of the Air Force as and whenever requested by the program

SAFSP D-38

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(AFR 11-30)

~~SECRET~~

management. The Director of the SAMOS Project is authorized direct contact with major commands to request such support. The Director, Office of Missile and Satellite Systems is authorized direct contact with the Air Staff, and other staffs and agencies, to request support as required.

Visits to the SAMOS Project Office will be for official business only. Requests for visits by other than normally accredited contractors and agencies of government whose business requires regular and frequent visits will be directed to the Secretary of the Air Force for approval.

Request that you inform the Air Staff and all major commands of the above direction immediately.

/s/ DUDLEY C. SHARP
Secretary of the Air Force

3 Incls:
1. Org & Functions of Off of Msl & Sal Sys (U)
2. Sat Recon Adv Council (U)
3. Sat Recon Tech Adv Gp (U)

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(AFR 11-30)

ORGANIZATION AND FUNCTIONS OF THE
OFFICE OF MISSILE AND SATELLITE SYSTEMS

1. Secretary of the Air Force Order No. 115.1, dated 31 August 1960, designated Brigadier Robert E. Greer as Director of the SAMOS Project, with additional duty as Vice Commander for Satellite Systems, AFBMD, ARDC, with duty station at AFBMD. It directs him to organize a SAMOS Project Office at AFBMD as a field extension of the Office of the Secretary of the Air Force. It specifies that the Director of the SAMOS Project is responsible to and will report directly to the Secretary of the Air Force.

2. Secretary of the Air Force Order No. 115.1, dated 31 August 1960, established the Office of Missile and Satellite Systems in the Office of the Secretary of the Air Force. It provides that the Director of the Office of Missile and Satellite Systems is primarily responsible for assisting the Secretary in discharging his responsibility for the direction, supervision and control of the SAMOS Project. He is responsible for maintaining liaison with the Office, Secretary of Defense and other interested governmental agencies on matters relative to his assigned responsibilities. He may be assigned additional duties as deemed appropriate by the Secretary of the Air Force, and he will provide the Secretariat for the Air Force Ballistic Missile Committee.

3. The general management structure for the SAMOS Project is outlined in Figure 1, attached. The Satellite Reconnaissance Technical Advisory Group will be appointed by the Secretary of the Air Force and will provide the means of obtaining the services of recognized experts from the scientific and applied engineering fields in the furtherance of the technical program. The Satellite Reconnaissance Advisory Council will be appointed by the Secretary of the Air Force to provide advice and counsel to him in the discharge of his overall responsibilities.

4. The internal organization and personnel assignment of the Office of Missile and Satellite Systems is outlined in Figure 2, attached. Following is a brief description of the principal duties of SAFMS officers:

OFFICE OF THE DIRECTOR

Director	Responsible for conducting all actions of SAFMS in accordance with policy of and delegated authority from the Secretary of the Air Force.
Deputy Director	Principal assistant to the Director, acts with full authority of the Director on all affairs of SAFMS. Responsible for overall direction, guidance, supervision, and coordination of the activities of the office.

Executive Office

Executive Asst Executive	Executive Officer and Chief of the Executive Office and responsible for the general administration of SAFMS, including mail, security, records, inspections, personnel, travel, and overall office management.

EXECUTIVE SECRETARIAT OF AF-BMC

Secretary Asst Secretary	Executive Secretariat of the Air Force Ballistic Missile Committee for Missile and Space Systems. Handles all matters related to Committee actions.

SATELLITE RECONNAISSANCE

Asst for Programs	Responsible for SAFMS duties concerning programming, funding, and schedules. Monitors, briefs and reports on all SAMOS launches. Maintains an active, working SAMOS control room for daily use. Responsible for actions incident to revising, processing, and maintaining the SAMOS development plan. Responsible for general briefings on the entire overall SAMOS Project, and for the preparation and maintenance of complete briefing material, aids and information on the overall project

Asst for Electronics	Responsible for SAFMS duties concerning electronic payloads, ELINT, and related matters; weather aspects of the SAMOS Project; technical compatibility of electronic aspects of Subsystem I, Space-Ground Communications. Responsible for NSA liaison and coordination. Responsible for maintaining current knowledge of booster and vehicle capabilities. Alternate to the Assistant for Instrumentation.
Asst for Photography	Responsible for SAFMS duties concerning photographic equipment and payloads and related coordination with other services and agencies. Responsible for photographic compatibility aspects of Subsystem I. Alternate to Assistant for System Engineering.
Asst for Instrumentation	Responsible for SAFMS duties concerning Subsystem I, its overall development, schedules, locations, tests, and overall technical design, overall data processing and handling of all SAMOS outputs. Also responsible for SAMOS recovery program, SAMOS command and control aspects, including centers and stations. Also responsible for MIDAS and DISCOVERER coordination. Alternate to Assistant for Electronics.
Asst for System Engineering	Responsible for overall system engineering aspects including interchangeability of payloads, system performance capabilities, mission variations, system growth possibilities, and relative priorities within the Project. Responsible for necessary coordination with related and supporting R&D programs. Also responsible for special projects as assigned by the Director. Alternate to the Assistant for Photography.

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(AFR 11-30)

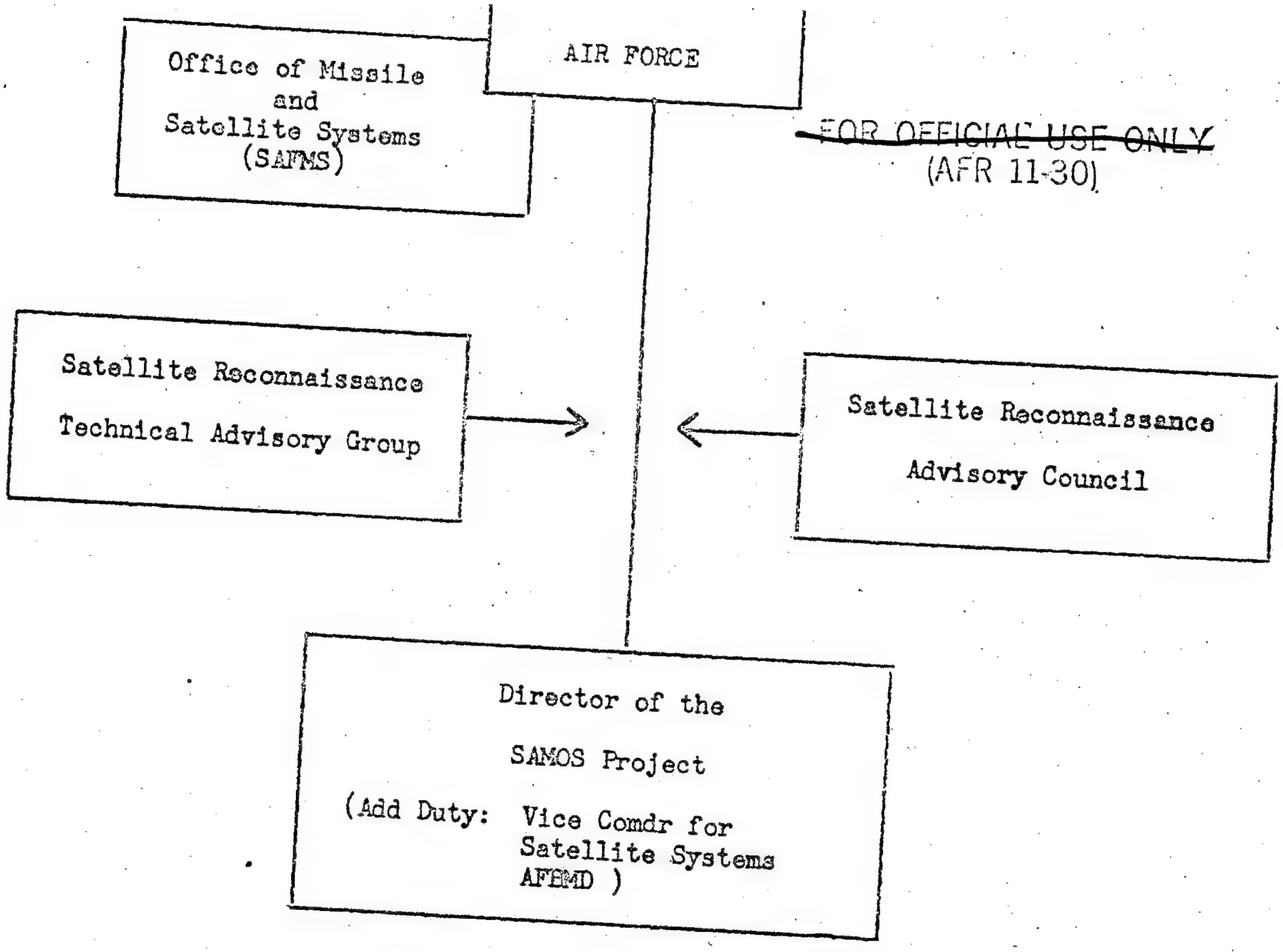
AIR FORCE
Office of Missile and Satellite Systems (SAFMS)
Satellite Reconnaissance Technical Advisory Group
Satellite Reconnaissance Advisory Council
Director of the SAMOS Project
(Add Duty: Vice Comdr for Satellite Systems AFBMD)

Figure 1.

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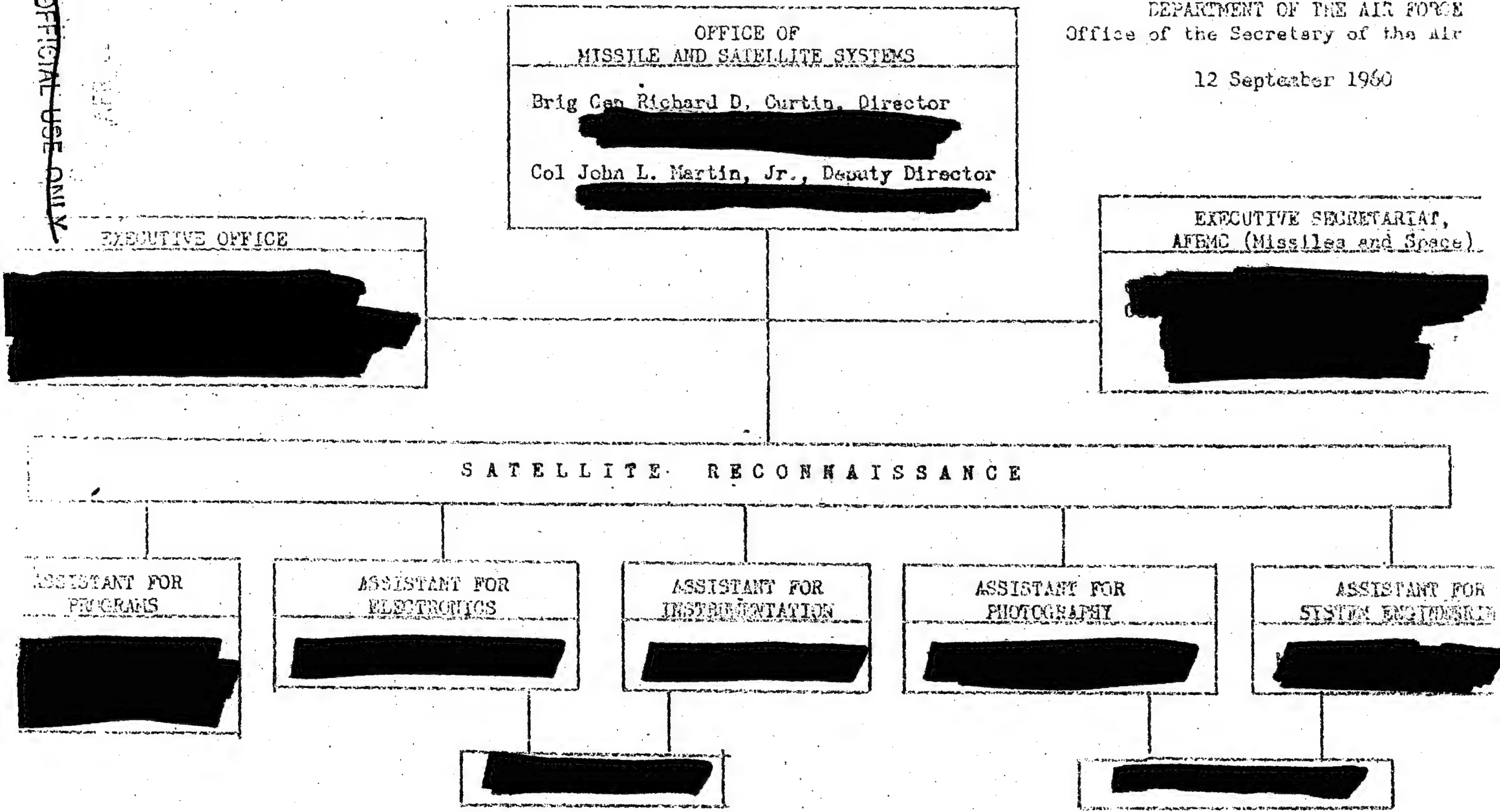
(A. R 11-30)

~~OR OFFICIAL USE ONLY~~

DEPARTMENT OF THE AIR FORCE
Office of the Secretary of the Air

12 September 1960



OFFICE OF
MISSILE AND SATELLITE SYSTEMS

Brig Gen Richard D. Curtin, Director
[redacted]

Col John L. Martin, Jr., Deputy Director
[redacted]

EXECUTIVE OFFICE
[redacted]

EXECUTIVE SECRETARIAT,
AFBMC (Missiles and Space)
[redacted]

SATELLITE RECONNAISSANCE

ASSISTANT FOR
PROGRAMS
[redacted]

ASSISTANT FOR
ELECTRONICS
[redacted]

ASSISTANT FOR
INSTRUMENTATION
[redacted]

ASSISTANT FOR
PHOTOGRAPHY
[redacted]

ASSISTANT FOR
SYSTEM ENGINEERIN
[redacted]

[redacted]

[redacted]

SATELLITE RECONNAISSANCE ADVISORY COUNCIL

1. Recent changes in the SAMOS management structure have resulted in the establishment of a Director of the SAMOS Project at AFBMD, as a field extension of the Office of the Secretary of the Air Force, and an Office of Missile and Satellite Systems within the Secretary's staff to assist him in the discharge of his responsibilities. The SAMOS Project will be managed within this structure, with no intermediate review or approval channels between the SAMOS Project Director and the Secretary of the Air Force.

2. In order to assist the Secretary in the discharge of his responsibilities, there is a need for an advisory agency to provide assistance, advice and recommendations as required. This agency will be the Satellite Reconnaissance Advisory Council.

THE SATELLITE RECONNAISSANCE ADVISORY COUNCIL:

Under Secretary of the Air Force, Chairman
Assistant Secretary (Research and Development)
Assistant Secretary (Financial Management)
Assistant Secretary (Materiel)
Vice Chief of Staff
Deputy Chief of Staff, Development
Assistant Chief of Staff, Intelligence
Director, Office of Missile and Satellite Systems

3. The Office of Missile and Satellite Systems will provide the Secretariat for the Council.

4. No alternates will be designated. Attendance will be limited to the members of the Council and such other individuals as may be invited to attend by the Chairman.

SATELLITE RECONNAISSANCE TECHNICAL ADVISORY GROUP

1. The services of recognized experts from the scientific and applied engineering communities shall be solicited as appropriate in the furtherance of the SAMOS technical program. Such services shall be rendered through the functioning of the Satellite Reconnaissance Technical Advisory Group.

2. The Satellite Reconnaissance Technical Advisory Group shall be composed of:

a. A permanent Standing Committee of four, which shall include recognized experts in the fields of electronics, photography, and data handling. The membership of the Standing Committee will be appointed by the Secretary of the Air Force.

b. Assemblies of technical experts representing pertinent scientific and engineering fields convened as occasions arise necessitating competent technical evaluation and advice in the prosecution of the Satellite Reconnaissance Program. Participation of such individuals in assemblies of the Satellite Reconnaissance Technical Advisory Group shall be by invitation from the Secretary of the Air Force. The Standing Committee shall preside at assemblies of the Technical Advisory Group.

3. Each assembly of the Satellite Reconnaissance Technical Advisory Group shall be chartered to consider specifically designated matters. Individuals invited to participate in Technical Advisory Group assemblies may vary for each assembly according to the nature of the matters under consideration.

4. Reports and findings of the Satellite Reconnaissance Technical Advisory Group shall be prepared for and submitted to the Secretary of the Air Force by the Standing Committee.

5. The Secretary of the Air Force shall, upon request from other government agencies in matters of national interest involving resolution of technical differences, direct the permanent Standing Committee to convene a special assembly of competent persons as determined by the Standing Committee, to consider the matter under request and to recommend appropriate resolution.

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THE SECRETARY OF DEFENSE
WASHINGTON

Oct 10 1960

MEMORANDUM FOR THE SECRETARY OF THE AIR FORCE

SUBJECT: Reconnaissance Satellite Program

The following actions, which were taken by the National Security Council at its meeting on 25 August 1960, and which were approved by the President, are transmitted for your information and implementation:

"1. That the following selected components of the Air Force satellite reconnaissance program will be assembled into a program of very high priority:

"a. A recoverable satellite-payload for high resolution convergent stereo photography.

"b. Satellite recovery at sea for the time being.

"c. Satellite recovery on land as soon as feasible.

"d. Some of the satellites to carry camera and film competent to identify with certainty missile sites both in construction and after completion.

"e. Other satellites to carry camera and film competent to study the state of readiness, type of activity, and type of missile.

"2. That emphasis will be placed on the development of more advanced recovery techniques, particularly for land recovery.

"3. That electronic read-out techniques will be given lower priority, but will be continued as a research project; and the extensive program for ground-based electronic read-out systems will be cut back very substantially and promptly.

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SEC. DEF. Cont. No. 5-864

"4. That the so-called F payloads for gathering electromagnetic intelligence should be given lower priority than that assigned to photography.

"5. That this program will be managed with the directness that the Air Force has used on occasion, with great success, for projects of overriding priority. This can best be accomplished by a direct line of command from the Secretary of the Air Force to the general officer in operational charge of the whole program, with appropriate boards of scientific advisers to both the secretarial level and to the operational level. The general officer in command would look to associated military boards for support in the execution of his plans.

"6. That the same organization as was used in the handling of U-2 films will be used for chemical processing of the recovered film, and the output will be distributed by a central community facility.

"7. That this program will be closely integrated with the weather services that will be associated with the TIROS project, with USAF 433L system and with other sources of weather data.

"8. That the first scheduled experimental launching of SAMOS will take place during September 1960."

Memorandum from the Secretary of Defense to the Secretary of the Air Force, dated September 15, 1960, subject: Reconnaissance Satellite Program, already implements that part of the National Security Council's action contained in paragraph 5 above.

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TWX FR SAFMS TO SAFSP 14 OCT 60

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AIR STAFF AND MAJOR COMMANDS NOTIFIED OFNEW ORGANIZATION BY AFCSS LTR DTD 14 OCT 60. TEXT NOW QUOTED BELOW FOR YOUR INFO. PUBLISHED COPIES TO FOLLOW BY MAIL.

"1. THE SECRETARY OF THE AIR FORCE HAS ESTABLISHED:

A. AN OFFICE OF MISSILE AND SATELLITE SYSTEMS (SAFMS) IN THE OFFICE OF THE SECRETARY OF THE AIR FORCE TO ASSIST HIM IN DISCHARGING HIS RESPONSIBILITY FOR THE DIRECT SUPERVISION AND CONTROL OF THE SAMOS PROJECT. THE DIRECTOR WILL PROVIDE THE EXECUTIVE SECRETARIAT FOR THE AIR FORCE BALLISTIC MISSILE COMMITTEE. THE DIRECTOR, SAFMS, IS RESPONSIBLE FOR MAINTAINING LIAISON WITH THE OFFICE OF THE SECRETARY OF DEFENSE AND OTHER INTERESTED GOVERNMENT AGENCIES ON MATTERS RELATIVE TO HIS ASSIGNED RESPONAIBILITIES. HE MAY BE ASSIGNED ADDITIONAL DUTIES AS DEEMED APPROPRIATE BY THE SECRETARY OF THE AIR FORCE. BRIGADIER GEERAL RICHARD D. CURTIN HAS BEEN DESIGNATED AS DIRECTOR OF THIS OFFICE.

B. A DIRECTORATE OF THE SAMOS PROJECT SAFSP AT AFBMD AS A FIELD EXTENSION OF THE OFFICE OF THE SECRETARY OF THE AIR FORCE RESPONSIBLE TO AND REPORTING DIRECTLY TO THE SECRETARY FOR MANAGEMENT OF THE SAMOS PROJECT. BRIGADIER GENERAL ROBERT E. GREER HAS BEEN DESIGNATED AS DIRECTOR WITH ADDITIONAL DUTY AS VICE COMMANDER FOR SATELLITE SYSTEMS, AFBMD, ARDC, WITH DUTY STATION AT 2400 EAST EL SEGUNDO BLVD., EL SEGUNDO, CALIF.

C. A SATELLITE RECONNAISSANCE TECHNICAL ADVISORY GROUP AND A SATELLITE RECONNAISSANCE ADVISORY COUNCIL.

2. EFFECTIVE IMMEDIATELY THE SATELLITE RECONNAISSANCE PROGRAM WILL BE MANAGED WITH THE ABOVE STRUCTURE. FURTHER:

A. THERE WILL BE NO REVIEW OR APPROVAL CHANNELS BETWEEN THE DIRECTOR OF THE SAMOS PROJECT AND THE SECRETARY OF THE AIR FORCE. HOWEVER, IN ORDER TO MAINTAIN GENERAL PROJECT KNOWLEDGE WITHIN THOSE COMMAND OR STAFF OFFICES WHERE SUCH KNOWLEDGE IS NECESSARY FOR PROGRAM SUPPORT OR COORDINATION OF RELATED MATTERS, NEED TO KNOW BRIEFINGS WILL BE GIVEN ON A PERIODIC BASIS. BRIEFINGS WILL BE GIVEN BY SAFMS WITHOUT REQUEST AND NOT AS A PART OF PROJECT MANAGEMENT ACTIONS. REQUESTS FOR BRIEFINGS WILL BE DIRECTED TO THE SECRETARY OF THE AIR FORCE AND WILL BE APPROVED ON A STRICT NEED TO KNOW BASIS.

B. VISITS TO THE SAMOS PROJECT OFFICE EL SEGUNDO, CALIF, WILL BE FOR OFFICIAL BUSINESS ONLY. REQUEST FOR VISITS BY OTHER THAN SPECIFICALLY ACCREDITED CONTRACTORS AND AGENCIES OF THE GOVERNMENT WHOSE BUSINESS REQUIRES REGULAR AND FREQUENT VISITS WILL BE DIRECTED TO THE SECRETARY OF THE AIR FORCE FOR APPROVAL.

C. THE DIRECTOR OF THE SAMOS PROJECT IS AUTHORIZED DIRECT CONTACT WITH MAJOR COMMANDS TO REQUEST SUPPORT.

D. THE DIRECTOR, OFFICE OF MISSILES AND SATELLITE SYSTEMS IS AUTHORIZED DIRECT CONTACT WITH THE AIR STAFF AND OTHER STAFFS AND AGENCIES TO REQUEST SUPPOR T AS REQUIRED

3. THE EXECUTIVE SECRETARIAT OF THE AIR FORCE BALLISTIC MISSILE COMMITTEE WILL BE THE RESPONSIBILITY OF THE DIRECTOR OF MISSILE AND SATELLITE SYSTEMS. PENDING RESOLUTION AND CLARIFICATION OF AIR STAFF PARTICIPATION IN THE DIRECTION OF BALLISTIC MISSILE AND SPACE PROGRAMS THE SECRETARIAT WILL CONTINUE TO PROVIDE THE AIR FORCE BALLISTIC MISSILE COMMITTEE WITH A DIRECT CHANNEL TO THE INGLEWOOD COMPLEX, AIR MATERIEL COMMAND, AND THE AIR STAFF. THIS WILL INCLUDE THE NECESSARY ARRANGEMENTS FOR MEETINGS AND FOLLOW-ON IMPLEMENTING ACTIONS. THE AIR STAFF WILL KEEP THIS OFFICE FULLY ADVISED ON MISSILE AND SPACE MATTERS SO AS TO INSURE MAXIMUM EFFECTIVENESS FOR THE SECRETARY OF THE AIR FORCE AND THE AIR FORCE BALLISTIC MISSILE COMMITTEE. UNTIL MORE DETAILED OPERATING INSTRUCTIONS ARE ISSUED, THE AIR STAFF WILL CONTINUE TO ASSIST THE OFFICE OF MISSILE

AND SATELLITE SYSTEMS IN EVERY WAY POSSIBLE.

4. THE HIGH NATIONAL IMPORTANCE ACCORDED THE SAMOS PROJECT REQUIRES COMPLETE SUPPORT AND IMMEDIATE RESPONSE FROM ALL ELEMENTS OF THE AIR FORCE. ALL INDIVIDUAL AND ORGANIZATIONS OF THE AIR FORCE ARE URGED TO PROVIDE THE NECESSARY RESOURCES AND ASSISTANCE TO THESE OFFICES TO ASSURE THE TIMELY ATTAINMENT OF MISSILE AND SATELLITE OBJECTIVES. SIGNED ROBERT R. ROWLAND, COL USAF. SECRETARY OF THE AIR STAFF UNQOUTE.

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NOV 21, 1960

Policy
Guidance
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MEMORANDUM FOR THE ASSISTANT SECRETARY OF THE NAVY (R&D)
THE ASSISTANT SECRETARY OF THE AIR FORCE (R&D)
THE DIRECTOR RESEARCH AND DEVELOPMENT, DEPARTMENT OF THE ARMY

SUBJECT: Policy, Missile and Space Vehicle Flight Safety

REFERENCE: DDR&E Memo of 8 Jun 1960, Subject: "Policy, Ranges and Space Ground Support"

The missile and space vehicle flight safety policy discussed herein is promulgated as a preliminary policy letter under the provisions outlined in the referenced memorandum. The purpose of this memorandum is to define the responsibilities of the National Range Commanders over the in-flight safety function at the Atlantic, Pacific, and White Sands Missile Ranges. It is recognized that this memorandum may be in conflict with certain Service-to-Service Agreements now in force. Separate actions are underway to determine appropriate revisions or cancellation of such agreements. Any comments or questions concerning this policy should be brought to the attention of the Office of DDR&E as soon as practicable.

National Range Commanders are responsible for assuring maximum flight safety consistent with operational requirements for all missiles and space vehicles launched from facilities under their respective commands. They are also responsible for in-flight safety of missiles and space vehicles launched into the National Ranges from waters adjacent to such facilities, or from adjacent DOD activities such as Vandenberg Air Force Base. This responsibility includes determination of the policies governing safety aspects of missile and space vehicle flights, and establishment of allowable limits of flight trajectories, acceptable locations for booster fall-out and terminal impact areas.

The Range Commander is responsible for ensuring provision of instrumentation for maintaining information on in-flight position of missiles to burn-out and space vehicles to final orbital position or escape velocity, sufficient to indicate malfunction or give assurance that the flight is progressing within predetermined safety limitations. The Range Commander will further be responsible for actuation of destruct devices or thrust termination, if necessary, to confine the flight within these limiting conditions.

The Range Commander is responsible for coordination of any necessary safety procedures with private or governmental agencies. He will promulgate any notices required within the United States and/or to foreign governments (through appropriate channels) in connection with anticipated hazards from launchings of missiles or space vehicles included within his respective area of in-flight safety responsibilities.

The release of public information regarding the safety aspects of missile and space vehicle operations requires special attention. The possible hazards and margins of safety are matters of public concern. It is essential, therefore, that such information be released to the public by the single source that is most knowledgeable. In order to assure a consistent DOD position, the Range Commander will be solely responsible for any public statements concerning in-flight safety practices, policies, procedures and margins of safety. The public affairs plan for any launch will be coordinated with the Range Commander for proposed statements involving in-flight safety. In the event of in-flight incidents involving safety, the Range Commander will be solely responsible for reporting any amplifying information beyond that contained in the pre-planned statements in the public affairs plan for that launch.

Range users are responsible for providing to the range the performance characteristics of their vehicles and contemplated flight trajectories in the detail and format, and on the time schedule required by the range.

Safety plans for R&D or training launches conducted within National Range areas of responsibility but from activities not falling within the definition of paragraph 2, above (such as Roosevelt Roads), will be coordinated with the National Range Commander to ensure consistency of safety policy and practices as they may affect relationships and agreements of the National Range with other federal agencies and foreign governments.

/s/ D. N. Yates

For Herbert F. York

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~~SECRET~~

6 December 1960

MEMORANDUM FOR THE CHIEF OF STAFF

SUBJECT: Basic Policy Concerning SAMOS

1. In order to enhance the achievement of the desired goals at the earliest date and for the reasons we have discussed, I believe that it is necessary that there be a recognition within the Air Staff and the various Commands of the following features of the revised SAMOS program:

a. The program should be regarded as an R&D program aimed at the exploitation of various promising reconnaissance techniques.

b. This R&D program nevertheless will include all the necessary elements to insure that the data which is obtained can be efficiently and promptly exploited.

c. The nature and character of an ultimate operational system is completely conditioned upon the success of the methods which will be exploited in the R&D program. Accordingly, effective operational planning cannot be accomplished at this time.

2. In our review of the entire effort it has become abundantly clear that major resources are being expended in directions which bear little or no connection with the new direction of the R&D program. There is a startling lack of knowledge and familiarity with the reoriented program. Many unfortunate remarks were made publicly and reported in the press. These only serve to make the accomplishment of our goals more difficult. I have discussed with General Luchman the details of a public relations plan which would tend to promote the most favorable climate for the full development of this capability. It is essential that the staff and the commands be informed as to our policy in this regard.

3. In view of the major effort now being expended in misdirected fashion I think it is essential to eliminate the obsolete documentation in regard to SAMOS and to reissue at a later date when clear direction can be given. Specifically, I would recommend the following:

a. SAMOS for the time being should not be included in the Program Documents (example: PG, PD) described in AFM 27-1.

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b. SAMOS project information will be furnished as necessary for legislative matters and for your Policy Book by the Director of the Office of Missile and Satellite Systems.

c. The Director of the Office of Missile and Satellite Systems will have the responsibility to keep key elements of the Air Staff and the commands completely informed as to the program. Normal monitoring by the Weapons Board system is unnecessary and no reviews or analyses should be undertaken by the various groups, panels, boards and committees.

d. Documents reflecting Air Force requirements for reconnaissance should continue to be prepared and should be submitted to the USIB for consideration in SAMOS project requirements.

e. The SAMOS Working Group should be dissolved.

4. I believe that the above is necessary in order to eliminate wasted effort and to insure that the reorientation of the program is effectively accomplished.

(Signed)
JOSEPH V. CHARYK
Under Secretary of the Air Force

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NO: 116.2

DATE: December 15, 1960

SECRETARY OF THE AIR FORCE
ORDER

SUBJECT: Organization and Functions of the Air Force Satellite Photographic Processing Laboratory

1. There is hereby established the Air Force Satellite Photographic Processing Laboratory (AFSPPL) at Westover Air Force Base, Massachusetts.

2. The Laboratory will be under the command of the Director of the SAMOS Project, 2400 East El Segundo Boulevard, El Segundo, California. It will be attached to the Air Force Command and Control Development Division, Air Research and Development Command, L. G. Hanscom Field, Massachusetts, for administrative, logistic, and contractual support.

3. The mission of the AFSPPL will be to conduct the research and development necessary to provide the best possible equipment, techniques, and knowledge applicable to satellite photography, to insure that the processing and duplication of photography obtained from satellite vehicles is of the highest possible quality, and to process, duplicate, and distribute this photography to designated users.

4. Physical space and some resources and manning for the AFSPPL will be taken from the 8th Reconnaissance Technical Squadron. The 8th Reconnaissance Technical Squadron will

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remain as a separate unit, with the AFSPPL having priority over all resources. Actual transfer of spaces, manpower, and other resources will follow approval of a detailed plan to be submitted to the Secretary of the Air Force by the Director of the SAMOS Project.

Dudley C. Sharp

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TWX 156-61
26 JAN 61
FM MR RAPP BUWEPS CACF-3
TO CDR DRYER PMR 130
UNCLAS X FWDD FOR YOUR INFO CLN

SECRETARY OF DEFENSE

19 JANUARY 1961

MEMORANDUM FOR THE SECRETARY OF THE ARMY
THE SECRETARY OF THE NAVY
THE SECRETARY OF THE AIR FORCE

SUBJECT CLN NATIONAL RANGE PROGRAM PLANNING AND RELATED FUNDING POLICY

IT IS THE INTENT OF THIE MEMORANDUM TO SET FORTH GENERAL POLICY GUIDELINES WHICH WILL GOVERN THE PROGRAM PLANNING AND RELATED FUNDING POLICY APPLICABLE TO CROSS-SERVICING PROCEDURES INVOLVING THE NATIONAL MISSILE RANGES. SPECIFICALLY, THESE GUIDELINES WILL APPLY TO THE WHITE SANDS MISSILE RANGE, THE PACIFIC MISSILE RANGE AND THE ATLANTIC MISSILE RANGE MANAGED BY THE ARMY, NAVY AND AIR FORCE, RESPECTIVELY.

THE NATIONAL MISSILE RANGES ARE NATIONAL FACILITIES SUPPORTING ALL RANGE USERS INCLUDING DEPARTMENT OF DEFENSE AGENCIES, NASA, AEC AND OTHER GOVERNMENT AGENCIES. ACCORDINGLY, IT IS REQUESTED THAT THE MANAGEMENT AGENCY OF EACH NATIONAL RANGE PLAN ITS PROGRAMS AND BUDGET AND FUND FOR THE RESEARCH, DEVELOPMENT, PROCUREMENT, THE INSTALLATION, MAINTENANCE AND OPERATION OF INSTRUMENTATION, COMMUNICATIONS, COMMON SUPPORT AND SERVICES ASSOCIATED WITH GENERAL RANGE SUPPORT.

RANGE USERS ARE RESPONSIBLE FOR STATING THEIR RANGE SUPPORT REQUIREMENTS TO THE NATIONAL RANGE THROUGH AN APPROVED TEST PLAN. ALL SUCH PROGRAM REQUIREMENTS WILL BE COLLATED BY THE RANGE AGAINST EXISTING RANGE CAPABILITIES AND TRANSLATED INTO AN APPROPRIATE BUDGET AND FUNDING LEVEL FOR EACH RANGE WHICH WILL BE RECOMMENDED TO THE MANAGEMENT SERVICE BY THE RANGE COMMANDER VIA THE REGULAR BUDGET AND FINANCIAL MANAGEMENT PROCEDURES. NORMALLY, THE MANAGEMENT SERVICE WILL BE EXPECTED TO GIVE THESE REQUIREMENTS THE NECESSARY PRIORITIES. THE MANAGEMENT SERVICE WILL ALSO BUDGET FOR AND FUND APPROVED RANGE REQUIREMENTS AT THE NECESSARY LEVEL INCLUDING REPROGRAMMING ACTIONS, AS NECESSARY, TO ACCOMMODATE CHANGES IN APPROVED PROGRAMS AND RELATED FUNDING LEVELS NECESSITATED BY REQUIREMENT CHANGES IN TEST NEEDS UNFORESEEN DURING THE BUDGET PREPARATION CYCLE. IN THE EVENT THAT THE MANAGEMENT SERVICE CANNOT FUND FOR THE REQUIREMENTS OF THE RANGE USER, EITHER BY NORMAL BUDGET OR BY REPROGRAMMING ACTION, THE SPECIFIC PROGRAM AND RELATED FISCAL PROBLEM SHOULD BE BROUGHT TO THE ATTENTION OF THE SECRETARY OF DEFENSE.

NATIONAL RANGE SERVICES WILL NORMALLY BE PROVIDED TO ALL RANGE USERS WITHOUT REIMBURSEMENT, THESE SERVICES INCLUDE CLN

A. OPERATION AND MAINTENANCE OF RANGE INSTRUMENTATION.

B. REDUCTION OF DATA COLLECTED BY THE RANGE /REDUCTION OF DATA COLLECTED BY OTHER SOURCES WILL BE PROVIDED WITHOUT REIMBURSEMENT IF FACILITIES PERMIT ON A NON-INTERFERRENCE BASIS/.

C. PHOTOGRAPHIC SERVICES.

D. RECOVERY SERVICES TO ACCOMPLISH LOCATION AND RETRIEVAL OF IMPACTING COMPONENTS, RE-ENTRY VEHICLES AND INSTRUMENTATION PACKAGES.

E. GROUND SAFETY AND FLIGHT SAFETY SERVICES.

F. WEATHER SERVICES IN SUPPORT OF LAUNCH OPERATIONS.

G. RANGE COMMUNICATION SERVICES /OFF-BASE COMMERCIAL CIRCUITS FOR ADMINISTRATIVE PURPOSES WILL BE PROVIDED ON REIMBURSEMENT BASIS AS PRESCRIBED BY OTHER REGULATIONS/.

H. TRANSPORTATION SERVICES, OTHER THAN BY MATS AND MSTS, BETWEEN THE LAUNCH HEAD AND OFF-SHORE STATIONS WILL BE PROVIDED, IF AVAILABLE, WITHOUT REIMBURSEMENT.

I. MAINTENANCE AND REPAIR OF ALL FACILITIES EXCEPT WHEN PROVIDED BY THE TENANT IN ACCORDANCE WITH MUTUAL AGREEMENT.

J. NORMAL BASE SUPPORT SERVICES COMMON TO MILITARY INSTALLATION.

K. NORMAL UTILITIES EXCEPT SPECIAL POWER AND OTHER REQUIREMENTS WHICH MAY BE PROVIDED BY THE TENANT IN ACCORDANCE WITH MUTUAL AGREEMENT.

THE FOLLOWING SERVICES WILL NORMALLY BE PROVIDED BY THE TENANT OR RANGE USER AGENCY CLN

A. OVERTIME COSTS OF RANGE OPERATIONS SCHEDULED AT THE CONVENIENCE OF THE RANGE USER.

B. OPERATIONS AND MAINTENANCE OF GSE AS DEFINED BY 8 JUNE 1960 POLICY LETTER.

C. TARGET SERVICES SUBJECT TO SEPARATE AGREEMENTS BETWEEN THE SERVICES INVOLVED.

/s/ THOMAS S. GATES

TOR: 1652Z/26 JAN 61
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DEPARTMENT OF THE AIR FORCE
SAMOS PROJECT OFFICE
Air Force Unit Post Office, Los Angeles 45, California

16 Feb 61

MEMORANDUM FOR RECORD

SUBJECT: Trip Report

1. On 13/14/15 Feb 61, I visited SAFUS for the purpose of presenting a summary on SAMOS II launch, a progress report on E-6 and to request a decision on the pending E-1/E-2 launches.

2. Decisions

a. 2103 will be pulled out of the line and put on the shelf.

b. 2120 will be launched on current schedule. 2121 launch date will be protected. Decision to launch 2121 will be made after results of 2120 are determined. The 3 additional E-1 payloads and E-2 payload will continue in a hold position for the present. No funds will be spent on these standby payloads.

c. The Under Secretary stated very specifically that E-6 (Hi resolution, stereo, gross coverage) has priority over E-5 (Hi resolution, stereo, specific target coverage.)

d. It was discussed and tentatively decided to use the Martin program as a vehicle to advance the general state of the art, rather than in specific support of a reconnaissance objective. The first objective is to develop maneuverable recovery; the second is to introduce a new high energy second stage; the third objective is to explore Titan II as a booster. Flights will be orbital; first flight early in 1963. AMR should be a good proving ground. Basic pad design should possibly be completed for PMR. Specifications for a new second stage should be prepared and planning initiated for sending out RFP's.

3. The Under Secretary expressed concern over the "rumors" that the flight date for 2120 had slipped to June and that premium overtime would be required to meet the delivery date on the E-6 Agena B. He directed me to explore the possibility of producing Agena B (E-6 config) at Bell to pick up in June 62 at the end of the current Lockheed buy. He also indicated that a sufficiently large work force should be put on E-6 Agena B to bring it in on time and if this resulted in undermanning on E-5 Agenas and thus required overtime on E-5, he would be prepared to discuss this as a separate matter.

ROBERT E. GREER
Brigadier General, USAF
Director of SAMOS Project

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DEPARTMENT OF THE AIR FORCE
SAMOS PROJECT OFFICE
Air Force Unit Post Office, Los Angeles 45, California

OFFICE OF THE DIRECTOR

21 February 1961

MEMORANDUM FOR RECORD

SUBJECT: Conversation with Dr. Charyk

1. I talked with Dr. Charyk this morning about Mr. Zuckert's visit. He stated Mr. Zuckert would have a secondary interest in SAMOS while he was at AFBMD, that he was primarily interested in missiles. I advised Dr. Charyk of my problem in presenting the E-6 briefing to Mr. Zuckert at Lockheed, discussed with him the fact that his time at AFBMD seemed to be fully taken and recommended that he either get the E-6 briefing from General Curtin or that we could brief him during our next trip to Washington. Dr. Charyk agreed and stated he would advise Mr. Zuckert.

2. Dr. Charyk received a briefing from Bell on their Hydrazine/Fluorine engine. He stated he was favorably impressed with this engine, felt that it was a must for the Space business and indicated he thought he would "go with it." We discussed sole sourcing versus RFP's, etc. He felt we should RFP the second stage airframe, but in view of Bell's past performance on the Agena engine, the fact that the Government had supported the Hydrazine engine and the fact that Bell would be out of business if the Government did not buy the Hydrazine engine all justified selecting the Bell engine over possible Aerojet/Rocketdyne competition. He stated [redacted] was needed in '62 and the total bill was about [redacted] He stated he thought the money could be found. I asked him if we should take immediate action along this line or await his written direction. He advised me to wait his written direction.

ROBERT E. GREER
Brigadier General, USAF
Director, SAMOS Project

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